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# A DESCRIPTIVE RESEARCH STUDY ON LAW ENFORCEMENT'S EYEWITNESS IDENTIFICATION PROCEDURES

A thesis submitted to the

Graduate School
of Seattle University

In partial fulfillment of the requirements for the degree of

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By

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# ABSTRACT

Annually, mistaken identifications lead to thousands of wrongful convictions and missed opportunities to catch guilty persons. Researchers rely on decades of exploration to recommend identification procedures to law enforcement. Several jurisdictions have recently standardized identification procedures.

This descriptive research investigated two photographic line-up variables: whether witnesses viewed photographs sequentially or simultaneously, and was the presentation single- or double-blind. Researchers agree lineups should be administered double-blind to decrease administrator influence. Experts debate the sequential format; mistaken identifications are decreased, as are correct identifications. Many experts recommend the sequential format.

This study mailed 1016 law enforcement agencies employing 100 or more officers a survey requesting response from someone who conducts identification procedures. Survey questions sought to identify the authority governing identification procedures, and whether officers followed those policies.

The respondents reported using single blind presentations 60% of the time and simultaneous formats 61% of the time. Twenty percent reported state regulations established lineup procedures, while approximately 36% reported the administrator made procedure decisions. Results disclosed a lack of knowledge about presentation methodologies and an interest in education; several requested copies of the final paper. These results demonstrate the need for more education and training for policymakers and law enforcement conducting lineup procedures.

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## INTRODUCTION

As of May 1, 2013, the Innocence Project and its network have won the post-conviction exoneration of 306 persons through DNA evidence. Eighteen of the exonerated served time on death row and the average time of incarceration was 13.6 years. Approximately 3,800 years have been served by these wrongfully convicted. Since 1989, DNA evidence has cleared tens of thousands of prime suspects prior to trial. A National Institute of Justice study of 10,060 cases conducted in 1995 showed that DNA testing at FBI laboratories cleared the prime suspect in 25% of those cases. Eyewitness misidentification played a major role in 75% of the cases later exonerated by DNA (The Innocence Project, 2013).

The conviction of an innocent person remains the most devastating outcome in the criminal justice system. Enormous personal cost accrues to the wrongfully convicted and their families who suffer repercussions for decades and across generations. The community suffers because the guilty parties remain free to prey on others, and statistics indicate they will. Though estimates vary widely on what percentage of convictions are in fact wrongful, any number should be unacceptable and those in the criminal justice system should do all in their power to reduce those numbers.

This study seeks to uncover the gap between optimal lineup procedures based on three decades of research, and the actual lineup procedures implemented by law enforcement. Law enforcement and society as a whole would benefit by lineup administrators adhering to the

scientifically-based recommendations of research psychologists. Every tool available should be used to decrease wrongful convictions and increase the apprehension of guilty persons.

Alfred Binet (1900) first argued for the creation of a practical science of testimony based upon his observations about the effects of suggestion. German psychologists argued that the procedure used to question eyewitnesses made a great deal of difference. In the early 1900's, several researchers in Europe and the United States were studying eyewitness testimony, but it was Hugo Munsterberg's (1908) book *On the Witness Stand* and his foray into the legal system that had a lasting impact in the United States (Wells et al., 2006). Although Munsterberg gained prominence in psychology, the skilled counterarguments of John Henry Wigmore, considered one of the greatest minds in American jurisprudence, blunted his influence on the legal system. Wigmore was particularly effective arguing in a 1909 law review article that, contrary to Munsterberg's claims, psychology did not possess assessable tools to solve the problem of evaluating eyewitness accounts. Eyewitness research dried up from the 1920's through the 1960's, which some observers suggested resulted from overzealous over-generalizations by psychologists which failed to meet the standards of the courtroom (Wells et al., 2006).

Elizabeth Loftus published experiments on post-event information in prestigious scientific psychological journals in the mid- to late-1970's, legitimizing the study of eyewitnesses in the minds of psychological scientists. Like Munsterberg, others in the legal and psychological field criticized some of her claims, but, unlike Munsterberg, she helped launch a generation of researchers who have carefully and strategically built an empirical literature that the legal system cannot ignore. Loftus focused on memory for events and the malleability of memory while, during the same period, Robert Buckhout focused on memory for people's

characteristics and mistaken identifications from lineups. Buckhout was not successful at getting published in scientific journals, but he often used dramatic means to demonstrate his claims. In one instance, he convinced a New York City television station to broadcast a staged mugging followed by the presentation of a six-person lineup. Of the 2,145 viewers who called in, nearly 2,000 mistakenly identified the mugger. Despite his lack of publishing exposure, Buckhout influenced a new generation of research into mistaken identification (Wells et al., 2006).

In the 1970's, a distinction emerged between system variables and estimator variables. System variables are under the control, or potentially under the control, of the system, while estimator variables are not. "Estimator-variable research cannot alter the accuracy of a given witness's account of a real crime; it can only reduce or increase the court's reliance on the witness's testimony" (Wells, 1978, p. 1548). System variables generally fall into two categories. One category relates to interviews of the eyewitness, a process that generally involves recall memory. The other focuses on the identification of suspects, a process that generally involves recognition memory. Estimator variables represent those variables unique to the eyewitness and the conditions under which he views the crime. Examples include; cross-race identification, stress, weapon focus, exposure duration, the perpetrator wearing a disguise, retention interval memory declines over time, lighting, and witness intoxication. The criminal justice system cannot control these variables, but must take them into consideration when assessing the reliability of the witness (Wells, 1978)(Wells et al., 2006). Cutler, Penrod, & Martens (1987) demonstrated that both estimator and system variables affected identification accuracy.

Singling out system variables was important because it addressed the primary argument that Wigmore used against Munsterberg: psychology had no practical recommendations for

addressing the eyewitness problem. Loftus's main findings dovetailed with the system variable framework. If certain types of questions lead eyewitnesses to later incorporate information regarding events and details they did not actually witness, then psychology could devise practical ways to avoid this problem. Additionally, properly constructed instructions to eyewitnesses prior to lineup viewing could reduce the chances of mistaken identification (Wells et al., 2006).

Throughout the 1970s and 1980s, the justice system, except for defense attorneys, largely ignored eyewitness research. Defense attorneys began employing eyewitness experts to educate jurors on the unreliability of eyewitness memory by testifying at trial. Trial judges have exercised their discretion to both allow and deny expert testimony in almost every jurisdiction in the United States. Four arguments form the primary basis for denials: 1) the eyewitness literature is not sufficiently "scientific;" though this argument is declining in potency with every new research study; 2) such testimony invades the province of the triers of fact (the judge or jury); 3) the findings are a matter of common sense and an "expert" is not needed to explain them; and 4) the prejudicial value of expert testimony regarding eyewitnesses outweighs its probative value.

The advent of DNA testing changed the way the legal system views eyewitness evidence. Previous studies going back to Borchard (1932) had implicated eyewitness identification in the majority of wrongful convictions, but proving that a conviction *was* wrongful was difficult until DNA testing uncovered verifiable cases. Mistaken identification comprised thirty-six of the first 40 cases of DNA exonerations (Wells et al., 1998) (Wells et al., 2006). Before these DNA exonerations, some believed what psychological researchers replicated in the lab did not translate to "real" crimes. Virtually all DNA exonerations involve sexual assault in addition to murder, robbery, and other offenses, but sexual assault is the common feature. Sexual assaults provide

biologically rich DNA traces in the form of semen. Only a small fraction of murders and almost no robberies or aggravated assaults result in DNA left at the crime scene. Therefore, DNA exonerations presumably represent a small proportion of crimes for which eyewitness evidence has been used to convict people. In 2010, the FBI estimated more than 14,000 murders, 84,000 forcible rapes, 367,000 robberies, and 778,000 aggravated assaults took place (www.fbi.gov), so there are numerous serious cases in which eyewitness testimony may be a factor.

Some experiments stage costly and time-consuming live crimes to test eyewitness issues, but more often the eyewitness subjects are shown a video of a staged crime. Usually the eyewitness subjects examine photo lineups rather than live lineups, due to prohibitive time and cost; this method mirrors actual police practice where the photomontage is more prevalent than the live lineup. Standard research practice compares lineups with the perpetrator present with lineups with no perpetrator. The latter are known as target-absent (TA) lineups and are important to simulate the real-world situation where the police have targeted an innocent suspect. A target-absent lineup is most commonly created by replacing the target with another person who fits the target's description and leaving the fillers, or foils, the same (Wells et al., 2006).

An identification of a suspect is often the most important eyewitness evidence presented at trial, and numerous studies have shown that jurors are likely to accept the identification as accurate, especially if the eyewitness expresses confidence. The lineup, either live or through a photographic array, represents the primary method of identification. Each lineup should contain only one suspect, with the remaining slots filled with members known as innocent fillers, also called foils. In a lineup containing the perpetrator (target-present), two kinds of errors can be made: an incorrect rejection (no pick) or the selection of a foil. Target-absent lineups can

produce two kinds of errors; the selection of an innocent suspect or the selection of a foil. The selection of an innocent suspect embodies the gravest error because foils, as known innocent subjects, will not be charged with the crime, whereas the innocent suspect will be.

Law enforcement officers present photographic arrays, or montages, in two ways. The most common is the simultaneous array wherein all the photographs are printed on one sheet of paper and the eyewitness views them all before making a selection. Typically these montages depict six photographs in two rows of three, colloquially known as "six-packs." As will be discussed later in this paper, many researchers believe simultaneous viewing leads the eyewitness to compare the photographs and make what is considered a relative judgment, selecting the photograph that "most looks like" the eyewitness's memory of the perpetrator. Presenting the photo array in a sequential manner, in which the eyewitness views one photo at a time, represents the alternative to the simultaneous technique. This method requires the eyewitness to make an absolute judgment about each photograph before moving on to the next. In this case, the eyewitness makes a series of decisions against his memory of the perpetrator. Researchers over the past three decades have demonstrated that the sequential lineup produces fewer errors as compared to the simultaneous lineup. Researchers have not reached an absolute consensus on whether the lower error rate comes at the expense of correct identifications when the perpetrator is present in the lineup (Wells et al., 2006) (Winzeler, 2008).

Police officers conducting a lineup are like scientists conducting an experiment: they develop a hypothesis, and then test its validity. Scientific inquiry must be as objective as possible to reduce biased interpretations of results.

"The lineup-as-experiment analogy can be described as follows: In the image

> of a social psychology experiment, the officer conducting the lineup is like an *experimenter,* the eyewitnesses are the *subjects*, instructions to the eye-witnesses can be likened to an experimenter's *protocol*, the suspect is a *stimulus* and the selection of lineup members and the positioning of the suspect in the lineup are part of the *design.* As well, police have a *hypothesis* (e.g., that #4 is the guilty party) and have created a *design* and *procedure* to test the hypothesis. The eyewitness's choices or identification behaviors constitute the *data* from which the validity of that hypothesis will be evaluated by police and possibly a prosecutor, judge, and jury." "The analogy can be extended even further by noting that an outcome of an experiment, even if it is methodologically flawless, can be considered only a statistical truth, as there remains some probability that chance factors were at play. Similarly, a positive identification, even if it is from a flawlessly conducted lineup, might be a false identification. Thus, both an experiment and a lineup are merely probabilistic in their discovery of truth" (Wells & Luus, 1990 p. 116).

Another aspect of lineup presentation is the double-blind lineup, which helps ensure an unbiased response from the witness. In a double-blind procedure, the person who administers the lineup should be unaware of which lineup member is the suspect. By so doing, the administrator will be incapable of sending conscious or unconscious messages to the eyewitness regarding the identity of the suspect, either before or after she makes a selection (Wells et al., 2006).

Wogalter, Malpass, & McQuiston (2004) conducted a survey of police on their preparation and conduct of identification lineups. They mailed surveys to police departments in 500 US jurisdictions, asking police officers who administer lineup identification procedures to provide answers to 67 questions. The questions focused on the construction and presentations of lineups. Survey results indicated the mean size for photographic lineups was 6.5, with most officers reporting they usually placed the suspect in the middle of the lineup (81% for photographic lineups). Forty per cent of respondents reported using sequential lineups, but the average number of sequential lineups reported in total experience was 32.7, which represented slightly less than 10% of all lineups they had reported conducting in an earlier question.

Open-ended questions about selection criteria for lineup foils revealed that 83% of all respondents indicated that the selection criteria is based on similarity to the suspect, while 9% reported choosing lineup foils based on witnesses' verbal descriptions of the suspect. Research suggests that selection of foils based purely on the appearance of the suspect can distinguish the suspect from the foils, as the suspect has more features in common with the foils than any of the foils share with each other. Though research shows that the form and content of instructions can unduly influence research participants to make a choice from a lineup, only about 50% of the police officers responded to a general open-ended question with the information that they give witnesses the option of not making a selection. Most of the respondents said they did not receive formal training in eyewitness identification techniques (Wogalter et al., 2004).

Wise, Safer, & Maro (2011) surveyed 532 law enforcement officers seeking information on identification procedures and eyewitness interviews as conducted by officers. The officers were divided into seven sample groups; four sample groups came from jurisdictions that had not implemented eyewitness reforms, while three samples came from jurisdictions that had implemented reforms. The questionnaire consisted of five sections covering general knowledge of eyewitness factors, eyewitness interviewing, lineups, show-ups, and background information.

"(O)fficers in both groups displayed a limited knowledge of how eyewitness factors affect eyewitness accuracy" (Wise et al., 2011, p. 491). The officers reported they do not follow many procedures necessary for fair identifications, as set forth in the NIJ's *Guide and Training Manual*. The survey asked them to estimate whom witnesses select from photo lineups; the non-reform and reform officers' responses did not differ significantly. Select a suspect (61%, 61%), select a filler (17%, 13%) and no selection (23%, 27%). Studies of photo lineups both in the

United States and the United Kingdom indicate that eyewitnesses actually identify the following percentages: suspect (40%), filler (20%) and no pick (40%). The officers significantly overestimated how often eyewitnesses identify the suspect. The authors suggest the officers may overestimate the identification percentages if they are accounting for confirmatory lineups where the eyewitness knows who committed the crime, but must identify him to law enforcement.

The survey asked officers to report the least amount of evidence they require before placing a suspect in a photo lineup. There were no significant differences between the two groups, whose answers were; no evidence of guilt (3%, 9%), on the basis of a hunch (31%, 31%), some evidence of guilt (56%, 50%) and require probable cause (9%, 10%). Nine more questions focused on the officer's lineup procedures. The reform officers correctly answered significantly more of the nine statements than did the non-reform. More reform officers reported conducting blind lineups (26% vs. 3%), giving a warning that the culprit may not be in the lineup (95% vs. 78%), including only one suspect per lineup (83% vs. 70%), videotaping lineups (23% vs. 7%), and asking for a statement of confidence concerning the identification (91% vs. 71%).

The survey asked officers about their knowledge of, and familiarity with, the NIJ's *Guide and Training Manual*. 55% of reform officers were familiar with the Guide, as compared to 19% of non-reform officers. Only 18% of the reform officers and 1% of the non-reform officers had both read and received training on the *Guide*. Most officers (85%) believed law enforcement officers should receive more training on eyewitness testimony, while 8% believed officers receive adequate training. The survey asked officers to estimate out of 100 cases of wrongful felony convictions how many were due at least in part to eyewitness error. "A conservative estimate is that eyewitness error occurs in at least half of all wrongful felony convictions in the

United States" (Wise et al., 2011, p. 496). The non-reform officers' mean estimate was 35.52, while the reform officers' mean estimate was 40.23, both well below the aforementioned estimate of 50.

The authors conclude that this survey of a wide array of law enforcement officers from several regions of the U.S. showed they "have limited knowledge of eyewitness factors and how memory works. The officers' responses indicated that they fail to follow many empirically based procedures for conducting fair and unbiased eyewitness interviews, lineups and show-ups, including procedures that were incorporated into NIJ's *Guide and Training Manual*" (Wise et al., 2011, p. 497). Reform officers are only performing appropriate procedures slightly better than those in non-reform jurisdictions.

Based on the body of research, several jurisdictions have reformed their methods to include using the double-blind procedure and the sequential lineup method, while others have not. Even in jurisdictions which have enacted reforms, in-the-field practice does not necessarily adhere to the optimal methods validated by research. This study seeks to define the "lay of the land" in local police departments and sheriff's offices employing 100 or more sworn officers. Questions to be answered are; how are law enforcement officers actually presenting identification lineups, who is conducting those presentations, and who decides how lineups should be presented. By gaining an assessment of current practice in the field and identifying decision-makers, gaps in education and understanding may be identified. With a better understanding of the knowledge, acceptance, and utilization of identification procedures in addition to the location of possible roadblocks to implementing the double-blind, sequential

photographic array, this information can be used to educate decision-makers and change policy with the goal of fewer wrongful convictions, and more guilty persons being apprehended.

This study will only query larger law enforcement agencies, whose concerns or capacities may differ from smaller agencies. Smaller agencies often cite lack of manpower and resources as a roadblock to implementing new procedures. An obvious limitation of the study is relying upon the responder to know how officers in the field are presenting identification lineups, and to accurately report the procedures in use. It is possible, as seen in other studies, that the officers may have an understanding of researchers' or policy-makers' preferred methods, but for various reasons choose not to use those techniques and may attempt to conceal their lack of adherence.

This paper examines what the preferred methods are, and how researchers and policy-makers arrived at the recommendations made to law enforcement for conducting photomontages. Consensus has not been reached on all fronts, but improvements can be made to the traditional fashion of viewing live and photographic lineups and the following literature review examines those methods and what researchers have learned about their usefulness to law enforcement.

# LITERATURE REVIEW

The following literature review examines two issues in the administration of photographic lineups: double-blind versus non-blind presentation, and sequential versus simultaneous presentation. Researchers have conducted many studies and meta-analyses of those studies to identify the pros and cons of sequential versus simultaneous lineups. Debate continues within the research community regarding the superiority of the sequential lineup versus the benefits of the simultaneous lineup; some of those papers are reviewed here. Conversely, fewer research studies focus on the differences between double-blind and non-blind lineup administration, but fewer disagreements arise about its impact on an unbiased procedure.

## Single Blind versus Double Blind Presentations

First, this review examines the literature regarding double-blind administration of lineups versus non-double-blind, or single-blind. The double-blind presentation features a lineup administrator who is unaware of the suspect's identity, thus rendering him incapable of influencing the witness's selection. Cutler & Penrod (1995) first introduced the phenomenon they termed "investigator bias." As the following studies demonstrate, little controversy exists regarding the efficacy of this safeguard among researchers, in contrast with law enforcement's feelings about the procedure.

Phillips et al. (1999) conducted a study to determine whether a lineup administrator's knowledge of the suspect's identity could produce the effects of investigator bias. In each trial a participant administrator (PA) presented two perpetrator-absent photomontages to a participant-witness (PW). Half of the presentations used double-blind testing in which neither the PA nor PW knew the identity of the suspect; in the other half, the PA was informed of the suspect's

identity. To simulate real-life motivations, the PAs earned cash incentives for obtaining positive identifications. The researchers manipulated two other variables: the type of montage, sequential or simultaneous, and the presence or absence of an observer. Participants rated the overall fairness of each photomontage administration and the PWs rated the degree to which they felt pressured to make an identification, and their confidence level for each identification decision.

The analysis revealed no significant differences between the proportion of PWs making an identification across all conditions: 82% of the PWs incorrectly identified someone in the photomontage as the perpetrator. False suspect identifications occurred significantly more often in sequential lineups than in simultaneous lineups. When the observer was present and witnesses viewed montages sequentially, suspect misidentifications occurred slightly more often with the non-blind procedure than with the double-blind procedure. No differences in false identification rates occurred, regardless of the presentation when the observer was absent. And, finally, PW's confidence ratings increased slightly for non-blind versus double-blind procedures.

The authors conclude that the results support the hypothesis that, in certain circumstances, a photomontage administrator's knowledge of the suspect's identity can increase the likelihood that the witness will identify the suspect. They speculate that it may be easier to bias the presentation of a single photograph in the sequential versus the simultaneous presentation, when all photos are visible concurrently. The decrease in confidence of PWs viewing the non-blind photomontages may reflect increased pressure from the PAs in the non-blind condition to make identifications even when the PWs were not confident in their accuracy. The presence of an observer did not reduce the investigator bias, which may have occurred because the observer was the experimenter who had revealed the suspect's identity to the PA.

The authors suggested that fellow officers, supervisors, or prosecutors present during a lineup may inadvertently increase the pressure felt by an administrator to obtain a positive identification, and may increase the pressure on an eyewitness to provide a positive identification.

Garrioch and Brimacombe (2001) studied the effect of lineup administrators' expectations on witness confidence; they suggested lineup administrators did not need to provide explicit verbal feedback to influence eyewitness confidence. The researchers randomly assigned two participants the roles of witness and interviewer. The witness watched a simulated theft video. Afterward, the interviewer showed the witness a target-absent photo lineup, the witness made a selection and then provided a statement of identification confidence. A statement from the experimenter manipulated the interviewer's beliefs about the thief's lineup position. There were four conditions: 1) Control: the interviewer lacked any information about the thief's position; 2) Confirm: the researcher led the interviewer to believe the thief was #5, who closely resembled the culprit; 3) Plausible: the researchers led the interviewer to believe the thief was #3, who resembled the culprit; and 4) Implausible: the researcher led the interviewer to believe the thief was #6, who looked dramatically different than the culprit.

The researchers instructed the interviewers to verbally obtain and record the witness' identification by asking, "Which lineup member is the thief?" They were told to record the witness' response to the question, "How confident are you about your lineup decision on a scale of 1 to 10?" The researchers then asked the witnesses if they thought the interviewer gave them any information as to whether they had picked the correct photograph and asked the interviewer if he had given the witness any feedback about his selection.

Only two witnesses correctly rejected the lineup; the researchers then analyzed the data from the other forty-eight. Witnesses whose interviewer believed they chose the correct lineup member (Confirm) expressed more confidence about their lineup decision than witnesses whose interviewers lacked any relevant information (Control). The confidence of witnesses whose interviewer believed they had identified the wrong person, but who looked similar to the alleged thief (Plausible), did not significantly differ from witnesses in the control condition. But witnesses whose interviewers believed they had selected the wrong person who looked vastly different from the alleged thief (Implausible) displayed significantly less confidence about their identification decisions than those witnesses in the Control condition.

The authors conclude that lineup administrators' beliefs about the culprit's identity affected witnesses' confidence in their choices, lending support to the recommendation that lineup administrators not know which lineup member is the suspect. Additionally, neither the interviewers nor the witnesses acknowledged the lineup administrators' feedback in the follow-up interviews. The authors conclude by stating the researchers expressly told lineup administrators not to provide feedback to witnesses about their lineup decisions, yet they still influenced witness confidence (Garrioch & Brimacombe, 2001).

Haw and Fisher (2004) hypothesized one could limit the opportunity for the lineup administrator to convey his knowledge and achieve the same, or better, results as using a double-blind procedure. The participants watched a videotaped incident. Randomly chosen photos became the designated target substitutes so the target substitute looked no more like the target than did the foils. A recording presented the instructions along with written instructions. The researchers led the administrators to believe that all the lineups were target-present and told them

which person in each lineup was the target. To motivate the lineup administrators, the lineup administrator with the highest number of target selections earned a monetary award.

In the high-contact condition, the administrator sat within one to two feet and directly beside the witness, while showing the lineup photos and recording witness's decisions and confidence ratings. In the low-contact condition, the administrator sat about three to five feet away and slightly behind the witness' direct view.

Significantly more false identifications occurred when the witnesses viewed photos simultaneously and in cases of high level contact versus low level contact. No significant difference occurred between sequential viewings at either contact level. In the case of correct identifications, no significant effect appeared for either format or contact. Significantly more incorrect lineup rejections occurred for target-present lineups in low contact conditions than in high contact conditions. Participants chose someone from the lineup in cases of high contact significantly more often than in cases of low contact.

In target-absent lineups, when witnesses made a positive identification, they chose the target substitute significantly more often than chance; almost twice as often. In the low contact conditions, the witnesses chose the target substitute no more often than chance. Similarly, in simultaneous viewings of target-absent lineups, the witnesses chose the target significantly more than chance, but sequential viewings did not result in the selection of the target any more than chance would predict. The authors conclude that the policy of reducing the level of contact between the administrator and the witness may allow detectives to participate in lineups for all the reasons they believe they should, without adding bias to the procedure (Haw & Fisher, 2004).

Greathouse and Kovera (2009) asserted that following Wells' (1988) recommendation of double-blind procedures, only a handful of empirical studies examined the effect of investigator knowledge on eyewitness identification decisions. The authors hypothesized that lineup procedures which increased choosing rates would increase the effects of a single blind procedure on identification accuracy. They enlisted 468 undergraduate students divided equally into lineup administrators and eyewitnesses. They created a training video to instruct the lineup administrators in the proper way to conduct a photo lineup. At the end of the video, a campus police officer conducted a mock lineup with a mock witness and this demonstration contained several instances of bias on the part of the administrator. They created two "incident" videos using two different culprits; Haw & Fisher (2004) originally created these videos for use in an earlier study. The same study created the two photo arrays used. Lineup members were chosen first for their match to the description and then to each other.

Administrators read one of two versions of instructions to the witnesses; the biased instructions read, "We have the suspect in custody and would like to show you a photo lineup to see if you are able to identify him" (Greathouse & Kovera, 2009, p. 74). After making a selection, eyewitnesses rated their confidence on a 7-point scale, and both eyewitnesses and administrators completed questionnaires assessing their perceptions of bias present in the photo array administration. The experimenter told administrators they would receive a $20 bonus if their witness successfully identified the suspect from the photomontage. The researchers told only half the administrators the identity of the suspect: the perpetrator seen by the witness for the target-present conditions and the target substitute for the target-absent arrays. The researchers videotaped the interaction between the administrators and the eyewitnesses.

The authors found that when the target was present, the odds increased tenfold that the witness identified the suspect over the odds that the witness identified the suspect in the target-absent lineup. The greatest effect of administrator knowledge on identifications of the suspect occurred when administrators conducted a simultaneous lineup using biased instructions. The authors' analysis showed that administrator knowledge did not affect rejections of the lineup.

The researchers calculated diagnosticity by dividing the proportion of suspect identifications in target-present lineups by the proportion of suspect identifications in target-absent lineups. Suspect identifications made under double-blind conditions produced a diagnostic figure twice as high as those made under single-blind conditions. Witnesses who viewed a double-blind lineup expressed more confidence in their decisions than witnesses who viewed a single-blind lineup.

Two coders, unaware of the parameters of the experiment, viewed the videotapes of administrator-eyewitness contact and rated the interactions. The blind coders rated single-blind administrators as putting more pressure on the witness to make a selection than double-blind administrators. Single-blind administrators more often told witnesses to examine the lineup carefully, told the witnesses that they knew who the suspect was, told witnesses to take another look at the lineup if they did not make a selection, and removed a photograph slowly if the witness did not select that photo. Sequential lineup presenters more often asked witnesses to think about the perpetrator from another angle, asked witnesses if they were sure when the witness did not make an identification, took the picture away slowly after a non-identification, and asked witnesses to take another look if they did not make an identification.

Across all procedures, single-blind administrations produced identifications of suspects that demonstrated a lower diagnosticity than those produced using double-blind procedures. The authors conclude these findings suggest the importance of double-blind lineup administration.

Douglass & Steblay (2006) conducted a meta-analysis of research on post-identification feedback. The authors note that the first study to examine the effect of post-identification feedback, Wells & Bradfield (1998), demonstrated confirming post-identification feedback received by the witness immediately following the identification significantly inflated later confidence reports as compared with witnesses receiving no feedback. This effect is noteworthy for several reasons: first, most experiments have used target-absent photomontages (all of the identifications are inaccurate); second, a simple and seemingly casual comment from the lineup administrator produces this powerful effect and, as such, qualifies as a system variable which police can control; and third, the aspects of eyewitness experience distorted by post-identification feedback are, ironically, the very attributes likely to bolster eyewitness credibility in the eyes of investigators, prosecutors and juries.

The sample Douglass & Steblay (2006) reviewed consisted of twenty experimental tests from ten published and four unpublished studies representing 2477 participant-witnesses. All the studies used videotaped stimuli and required participants to make an identification from a photomontage. Eleven of the tests compared a confirming feedback (CF) condition to a no feedback (NF) control group. Six compared CF to disconfirming feedback (DF) condition. Three compared DF and NF groups. Douglass & Steblay's (2006) study focused on the comparison of CF versus NF. Certainty is arguably the most important dependent measure and CF participants expressed significantly more retrospective confidence in their decision. *Neil v. Biggers*, 1972,

considered eyewitness certainty one of the reliability criterions relevant to juror decision-making. Participants who received confirming feedback reported they possessed a significantly better basis for making the identification, greater clarity of the perpetrator's image in mind, greater ease of identification, and required less time to make their identification. They also reported a better memory for strangers' faces and greater trust in the memory of another witness with a similar experience. Consequently, such witnesses are more willing to testify about their identification.

Witnesses who made accurate identifications in target-present lineups, as well as false identifications in target-absent lineups, demonstrated post-identification feedback effects, although the effect proved stronger for inaccurate witnesses. The authors concluded that the implications of these results are quite profound: both memory for a crime and confidence in one's memory are fragile and potentially elusive evidentiary elements. Subtle changes in administrator behavior derived from the knowledge an investigator possesses about the identity of the suspect can influence witnesses' identification decisions and confidence. The authors believed "this research should provide police with a strong rationale as to why it is critically important to administer double-blind photomontages and to immediately record eyewitness confidence" (Douglass & Steblay, 2009, p. 865).

Wright, Carlucci, Evans, and Compio (2009) examined participants' beliefs about identifications under double blind versus non-double blind conditions. In their first study, they randomly assigned participants to one of six conditions: double blind versus non-double-blind by suspect selection versus foil selection versus no identification. A crime summary provided to the participants manipulated the factors. The description of the lineup administration was the critical aspect. Participants rendered a guilty or not guilty verdict and then rated how strongly they

believed the suspect was the culprit on a 0-100 scale. The effect experimental manipulations exerted on both the participants' verdicts and their guilt beliefs, was the primary interest. Eyewitness' choice revealed a significant effect, whereas a double-blind or non-double-blind lineup presentation proved non-significant, nor did the interaction produce a significant effect. The belief in guilt variable produced similar effects. No differences emerged between filler identifications and no identifications.

In the second study the researchers wanted to verify that the participants had processed the important aspects of the scenario, most importantly the difference between double blind and non-blind lineup administrations. Study 2 tested whether at least 50% of the participants processed the information. The critical measurement tool was a true/false item. If 0% of the people process the information and are guessing, 50% would be expected to be correct. If 50% processed the information and 50% were guessing, then 75% would be expected to be correct. The researchers randomly assigned participants to a 2 x 2 x 2 between-subjects design: whether the lineup was double blind or non-double blind; whether the eyewitness identified the suspect or not; and a methodological test to detect whether it makes a difference asking whether the person administering the lineup knew which person was the suspect. A main effect emerged of witness identification on verdict decision, but the main effect for double blind versus non-double blind did not rise to the level of significance. The researchers asked half the participants to respond 'true' if the line-up was double-blind, and the other half to respond 'true' if the lineup was not double-blind; overall participants responded accurately 90% of the time. For verdict, the effect for the suspect being picked produced a statistically significant result, while no significance emerged for the effect for double blind versus non-double-blind, nor for the interaction. For belief, statistically significant results emerged for the effect of suspect selections,

while no significance emerged for either the effect for double blind versus non-double blind, or the interaction.

This study showed that the lack of double blind versus non-double blind lineup effects in Study 1 and 2 was not attributable to failure to process critical information. Therefore, the authors embarked on Study 3 with a 2 x 6 between-subjects design. Whether the eyewitness identified the suspect or a filler represented the first factor, and the lineup administration description represented the second factor. The six variables: 1) 'The officer, who did not know which photograph was of Hoyle, showed…'; 2) 'The officer, who knew which photograph was of Hoyle, showed…'; 3) 'The officer, who did not believe that Hoyle was guilty, showed…'; 4) 'The officer, who stood out of sight behind Nancy Von Roper during the line-up showed…'; 5) 'The officer who believed that Hoyle was guilty, showed…'; 6) 'The officer who helped Nancy Von Roper throughout the procedure, showed…' (Wright et al., p. 858). Participants then made a guilty/not guilty decision, a belief in guilt judgment on a 0-100 scale, and answered 6 true/false questions about the scenario.

Statistical significance emerged for the main effect of a suspect identification, whereas no statistical significance occurred for the main effect of line-up administration. None of the conditions produced any significant differences. The authors suggest the lack of significance indicates that people do not think a line-up administrator can influence an eyewitness' choice. The final study design explored whether it is possible to force people to differentiate between blind and non-blind lineups.

The researchers studied whether the suspect was the culprit or not; whether a double blind procedure was used or not; and whether the eyewitness chose the suspect, a filler or made

no identification. Participants predicted that suspects are chosen more often when they are guilty than when they are not guilty. A non-double blind lineup administration did significantly produce higher estimates of suspect identifications. It appears that the participants thought that the presence of a lineup administrator who knows the suspect's identity increased the chances of selecting that person, but only if he is guilty. Participants predicted more filler selections in double blind line-ups than in non-double blind lineups. The authors concluded that while creating an effect for how people view double blind versus non-double blind line-up administration differently is possible, even with a study designed to maximize the effect, the size of the effect was small and inconsistent. The study results suggest it is critical to stress to people who rely on eyewitness identifications that non-double blind line-ups are less reliable than double blind line-ups.

Dysart, Lawson & Rainey (2011) hypothesized that, in addition to reducing identification errors, double blind lineup administration might also protect against the deleterious effects of administrator post-identification feedback. The researchers manipulated the presumed blind or presumed non-blind conditions by either the participant selecting a video to watch, or for the administrator to select the video and watch it with the participant.

As expected, participants in the presumed blind condition reported more often that the experimenter did not know the correct answer about the identification procedure, and participants in the presumed non-blind conditions more often said that they thought the experimenter was aware. The authors wanted to look at a subtle, realistic, feedback so they instructed the administrators to tell the eyewitnesses, "Thank you. You have been a really great witness." Participants watched 30-second videos, then viewed six-person target-absent or target-

present lineups and completed a questionnaire regarding their confidence in their identification. The questionnaire also asked them to rate their confidence in their description accuracy, the clarity of the look they caught of the perpetrator, how clearly they remembered the image of the perpetrator, the quality of their view of the perpetrator, and how much attention they had paid to the perpetrator's face.

Just less than one third of participants made correct identifications, with an insignificant difference between presumed non-blind and presumed blind conditions. A significant interaction between blind condition status and feedback emerged. In presumed blind conditions, feedback did not significantly inflate confidence or other testimony-relevant judgments. For accurate participants, feedback did not significantly affect confidence and other testimony-relevant judgments in presumed blind or non-blind conditions. For inaccurate participants, feedback significantly affected confidence and other judgments in presumed non-blind conditions. For inaccurate participants in presumed non-blind conditions, feedback related significantly to increased identification decision confidence, and increased participants' ratings of image clarity of the perpetrator in their mind and the amount of attention they had paid to the perpetrator's face. Feedback did not significantly affect inaccurate witnesses in presumed blind conditions.

Only one quarter of participants who received feedback reported its occurrence when questioned in an open-ended manner. Previous research has demonstrated not only may witnesses be unaware that lineup administrators are influencing them, but the administrators themselves may be unaware of their impact; thus, blind administration may offer the only solution to ensure the absence of biased influence. The authors emphasize that their study indicates "the post-identification feedback effect does not require an explicit confirmation of the

witness's choice, and that even seemingly ambiguous statements may be construed as informational in non-blind conditions" (Lawson et al., p. 7). Their results provided empirical support for the application of double-blind lineup administration by showing that when witnesses perceive that the administrator is ignorant of the suspect's identity, post-identification feedback effects disappear.

**Simultaneous versus Sequential Lineup Presentations**

The next aspect of lineups to examine relates to the arrangement of photomontages: sequential versus simultaneous. Gary Wells first argued in 1984 that eyewitnesses viewing a simultaneous photomontage tend to choose the lineup member who most resembles the perpetrator. To test this theory, he engaged 198 psychology students in an experiment in which he showed them a man stealing a computer game and subsequently asked them to identify the perpetrator. The control group consisted of 48 eyewitnesses who viewed a target-present lineup and 48 who viewed target-absent lineups. The test group viewed identical information, except they viewed a target-absent lineup first and then a second lineup. The resulting data showed that eyewitnesses who make identifications from a blank lineup are less credible on a subsequent lineup. These findings show that a blank lineup can serve as an effective lure for witnesses who are prone to make relative judgments (Wells, 1984).

In 1985, Lindsay and Wells first proposed the idea of sequential presentation of lineups. 240 students viewed a staged crime and were then asked to identify the perpetrator using one of four procedures: 1) six photos shown simultaneously with the guilty person present; 2) six photos shown sequentially with the guilty person present; 3) six photos shown simultaneously with an innocent suspect present; and 4) six photos shown sequentially with an innocent suspect. Use of

the sequential procedure reduced the number of false identifications, but did not significantly decrease the number of correct identifications. The simultaneous procedure led to fewer rejections of the lineups overall, suggesting that the simultaneous format encourages witnesses to pick *someone* (Lindsay & Wells, 1985). As we will see, researchers have replicated these experiments and obtained varied results in the ensuing decades.

In an expansion of the simultaneous versus sequential question, in 1988 Cutler and Penrod tested several variables. The eight variables tested were: with or without disguise; weapon present or not; perpetrator present or absent in the lineup; a simultaneous or sequential viewing of the lineup; a cautioning instruction that the robber may not be in the lineup or no such caution; completing a questionnaire right after viewing the staged crime or not until the lineup-viewing session; subjects receiving a guided interview or none; and finally, the lineup members moving to indicate gait, posture and voice or the use of still photographs.

Seventy-four percent of participants proved correct by either selecting the robber when present, or making no pick in the robber-absent lineups. Subjects made correct judgments more often in low-disguise and sequential presentations. The simultaneous presentation increased the false identifications in the robber-absent condition and improved the identification accuracy in the robber-present condition, but the difference proved neither large nor statistically significant.

> "The advantage of sequential presentation of lineup members is that they reduce false identifications. Sequential presentation is not costly, does not involve excessive training, does not require more lineup members than does the simultaneous procedure, is not deceptive, and does not require that witnesses be blind to the procedure involved' (Cutler & Penrod, 1988, p. 288).

Various lineup biases had been tested individually, but the influence of unexpected interactions was unknown. The previous lineup bias studies had revealed small declines in correct identification rates which could be exacerbated by combining various techniques. Lindsay et al. (1991) tested these effects through staged-crime experiments. The study utilized four conditions: half viewed a lineup in which a photograph of a similar-looking person representing an innocent suspect replaced the criminal's photo. Half of the eyewitnesses viewed a "conventional" lineup presented simultaneously, with no caution of the criminal's possible absence, and contained foils who somewhat resembled the criminal. Additionally, members wore dissimilar clothing, while one wore the same clothes as the criminal had worn during the crime. The other half viewed an "ideal" lineup presented sequentially with cautionary instructions and each of the lineup members dressed identically, with foils selected to best match the criminal.

Experiment Two tested the interaction of clothing bias with a sequential or simultaneous lineup. The simultaneous and sequential lineups equally produced correct identifications, but correct rejections were significantly more likely to occur from sequentially presented lineups. Experiment Three tested the effect of poorly matched foils in sequential or simultaneous lineups. Experiment Four examined the interaction of biased versus fair instructions with simultaneous versus sequential lineup presentations. Experiment Five combined all of the previous biases into one procedure to test the sequential versus simultaneous presentation under extremely biased conditions. See Table 2.1 for the results.

Table 2.1

False IDs and Correct Lineup Rejections as a Function of Lineup Bias and Presentation Across Five Experiments

| | Biased Lineups Experiment | | | | | Unbiased Line ups Experiment | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mode of Presentation | 2 | 3 | 4 | 5 | *M* | 1 | 2 | 3 | 4 | *M* |
| False identifications of the innocent suspect | | | | | | | | | | |
| Sequential | 33.3 | 53.3 | 33.3 | 83.9 | 51.0 | 20.0 | 20.0 | 40.0 | 13.3 | 23.3 |
| Simultaneous | 6.7 | 6.7 | 13.3 | 25.0 | 12.9 | 3.3 | 3.3 | 6.7 | 3.3 | 4.2 |
| Correct lineup rejections | | | | | | | | | | |
| Sequential | 2.0 | 46.7 | 33.3 | 16.1 | 29.0 | 70.0 | 53.3 | 23.3 | 60.0 | 51.6 |
| Simultaneous | 63.3 | 93.3 | 76.7 | 75.0 | 77.1 | 93.4 | 80.0 | 66.7 | 86.7 | 81.7 |

*Note.* Only data from target-absent lineups are presented because correct identification rates did not differ across conditions (Experiments 1 and 2)

Simultaneous lineups proved significantly more likely to produce an identification of the innocent suspect than sequential lineups. Biased lineups produced significantly more false identifications than nonbiased lineups in simultaneous presentations, but no significant difference arose in those presented sequentially. The authors concluded "sequential lineup presentation successfully eliminated the negative effects of some biased lineup procedures" (Lindsay et al., p. 800).

Lindsay, Lea & Fulford (1991) conducted three experiments to test the influence on eyewitness accuracy of a "second chance" viewing of a sequential lineup and prior knowledge of the lineup size. Previous methods of showing sequential lineups restricted the viewer to one pass through the photos and had response sheets with more blanks for responses than actual photos to be viewed, thus concealing from the eyewitness how many photos she would be looking at; this procedure is known as "backloading."

Allowing eyewitnesses a second chance to view a simultaneous lineup led to decreased correct rejections of target-absent lineups and increased foil selections, but did not increase the number of correct identifications. Offering sequential lineup viewers a second viewing did not significantly alter decisions. However, the witnesses' prior knowledge of the number of photos in a sequential lineup did lead to increased selections of the designated innocent suspect. The rate of correct identifications in sequential versus simultaneous lineups did not significantly differ, though sequential lineups led to significantly more correct rejections of a target-absent lineup. False identifications of an innocent suspect were lower in sequential viewings. Allowing a viewer to look at a sequential lineup and then view a simultaneous lineup only slightly increased the rate of correct identifications; the rate of correct rejections in target-absent lineups dropped from 77% to 55%, and false identifications rose from 5% to 26.7%.

The second experiment employed a biased target-absent lineup, followed by either another sequential lineup or a simultaneous lineup. Seventy-two percent of subjects who viewed two sequential lineups correctly rejected the lineup, versus only 12% of those viewing a simultaneous lineup for their second view. The third experiment featured a sequential target-absent lineup with the number of photos revealed in advance or a target-absent simultaneous lineup. The simultaneous viewing led to more false identifications of the innocent suspect. False identifications increased if the witness knew in advance the number of photographs in the lineup, but not as much as with simultaneous viewing. The authors conclude that witnesses viewing sequential lineups should not be aware of the number of faces to be presented, and should not be allowed to view the lineup more than once (Lindsay, Lea, & Fulford, 1991). MacLin & Phelan (2007) replicated these findings and drew the same conclusions using a computerized lineup administrator known as PC_Eyewitness.

In the face of in-field sequential lineups allowing multiple laps through the lineup, Steblay et al. (2010) examined the effect of allowing, or requiring, witnesses a second pass through the lineup. Repeated viewing of a sequential lineup significantly increased witness choosing rates, raising both correct and incorrect identifications when the witness had no prior exposure to the culprit. While a majority of witnesses did not change their response, 87% of those who did moved from no pick to an incorrect identification. Final identifications of witnesses who opted for a second viewing appear to result from an increased willingness to pick someone. These findings do not support the hypothesis that a second lap will result in an increased number of accurate memories from otherwise cautious witnesses.

Fewer witnesses in the required-lap condition changed their initial decisions than did witnesses who elected a second lap, and the required-lap condition produced subsequent effect sizes roughly half as large as those for the elected two-lap condition. The performance of two-lap witnesses did not rise to the level of the simultaneous viewers, suggesting that two views of a sequential lineup do not equal a simultaneous display. The authors concluded that a sequential format limited to one view is preferable to a lapped sequential protocol. They discovered that witnesses who declined the offer of a second viewing of the lineup generated the highest diagnosticity ratios.

Sporer (1993) tested Lindsay & Wells' (1985) assertion that sequential presentations would induce witnesses to employ an absolute-judgment processing strategy, as opposed to the relative-judgment processing strategy that prevails in simultaneous lineups. See Table 2.2 for results. Another study obtained similar results and also asked participants to complete a cognitive process questionnaire to determine which strategy they believed they employed.

Participants associated sequential lineups with the use of absolute strategies, while the simultaneous lineup viewers reported using both relative and absolute strategies. Results showed the association of accurate identifications and rejections with the use of absolute strategies, regardless of the lineup presentation or presence of the target (Kneller, Memon & Stevenage , 2001).

Table 2.2

Sequential versus Simultaneous presentations

| | False identification (TA) | Correct identification (TP) |
|---|---|---|
| Sequential | 38.9 % | 38.9 % |
| Simultaneous | 72.2 % | 44.4 % |

In the sequential lineup, the distribution of choices over the six positions did not vary from chance. Viewers did not choose faces displayed later in the lineup more often than those appearing earlier, as some researchers had hypothesized. Positive significant variations emerged from selections in the simultaneous procedure that utilized a 2 by 3 array. Of the 27 selections that viewers chose, eleven were in Position 5, the middle photograph in the bottom row.

Witnesses who accurately identified the target did so much faster than witnesses incorrectly identifying an innocent foil. Among non-choosers, correct rejections took longer than incorrect rejections. Decision time emerged as an even stronger predictor variable for choosers in sequential lineups. “Decision time may even be indicative of accuracy in a dual sense: A positive identification choice that is not made quickly is likely to be wrong, but a rejection decision that takes a long time is likely to be correct” (Sporer, 1993, p. 31).

In 1996 the Executive Committee of the American Psychology/Law Society appointed a subcommittee comprised of psychological researchers to draft good practice guidelines for constructing and conducting lineups and photomontages for crime eyewitnesses. The members of the subcommittee reported their findings and recommendations in a 1998 paper (Wells et al., 1998). In the 1970s the Supreme Court had ruled in *Neil v. Biggers*, 1972, and *Manson v. Braithwaite*, 1977, that even highly suggestive procedures are not per se reasons for exclusion, because they do not necessarily undermine the reliability of the identification.

> "The court stressed five criteria: (a) the opportunity of the eyewitness to view the offender at the time of the crime, (b) the witness's degree of attention, (c) the accuracy of the witness's prior description of the offender, (d) the level of certainty displayed by the witness at the identification procedure, and (e) the length of time between crime and the identification procedure" (Wells et al., 1998, pp. 5-6).

Eyewitness researchers criticized these five criteria on a number of grounds. "Accuracy of description" poorly predicts accuracy of identification and, even more problematically, biased lineup procedures can lead eyewitnesses to overestimate the quality of view they had of the perpetrator and lead them to develop false confidence. Wells et al. (1998) supported their recommendations on three bases: relevant theory, experimental data and scientific logic, establishing the foundation for consensus in the scientific community.

Wells et al. (1998) suggested the best evidence for the operation of relative judgment processes came from experiments using the "removal without replacement" procedure. In this procedure, some eyewitnesses view a lineup in which the culprit is present and the administrator records the rate at which he is identified. Other eyewitnesses view the exact same lineup, except the culprit's photo is removed with no replacement. If the identifications of the culprit in the culprit-present lineup measure true recognition, then the percentage of eyewitnesses who indicate

"none" in the culprit-absent lineup should equal the percentage who say "none" in the culprit-present lineup, plus the percentage that had identified the culprit. Wells (1993) showed this was not the case.

Steblay's (1997) meta-analysis of instruction effects had shown that the "might or might not be present" instruction reduced identifications when the perpetrator was absent from the lineup, while not affecting identifications when the perpetrator was present. The authors suggested the instruction led eyewitnesses away from using the relative judgment process as often as they would otherwise, but did not completely eradicate the use of relative judgments. In lineups where the innocent suspect was the only person who fit the description of the culprit, the eyewitnesses expressed stronger confidence in their identifications than when others in the lineup also fit the description. The authors concluded relative judgments affect not only who was identified, but also the confidence level the eyewitnesses attached to their identification.

A further test of the relative judgment process showed eyewitnesses a blank lineup before they viewed the actual lineup. Those who rejected the blank lineup were far less likely to make a false identification when they viewed the actual lineup, than those who either did not reject, or did not view, a blank lineup. Wells (1984) showed that this dual lineup procedure produced minimal effects on the rate of accurate identifications, but did reduce false identifications. The positive results from sequential procedures support the author's fifth line of empirical evidence that false identifications are partly the result of the relative judgment process.

Wells et al. (1998) referred to the *Biggers* decision that eyewitness certainty merits inclusion as one of the five factors considered in making judgments about the accuracy of an identification. The authors cited numerous mock-jury experiments which demonstrated the level

of confidence expressed by an eyewitness during testimony was the most powerful single determinant of whether the judge and jury will believe the eyewitness made an accurate identification.

> "Taken together, the survey, postdiction and mock-juror experiments, and the confidence-accuracy studies converge on a worrisome set of conclusions: Jurors appear to overestimate the accuracy of identifications, fail to differentiate accurate from inaccurate eyewitnesses-because they rely so heavily on witness confidence, which is relatively nondiagnostic-- and are generally insensitive to other factors that influence identification accuracy. Furthermore, this picture is even gloomier when one considers that eyewitness confidence proves to be highly malleable" (Wells et al., 1998, p. 18)

The authors recommended four rules for identification procedures. Rule 1. Focused on administration of the lineup. "*The person who conducts the lineup or photomontage should not be aware of which member of the lineup or photomontage is the suspect"* (Wells et al.1998, p. 21). First, experiments have shown a photomontage administrator's behaviors, such as any nonverbal reinforcement of a particular photograph, can lead eyewitnesses to make a false identification. Second, police sometimes conduct lineups in a manner that clearly demonstrates their knowledge of the suspect's identity, divulging information that focuses the eyewitness on the suspect. Third, the administrator's statements to the eyewitness at the time of selection strongly influence the confidence of the eyewitness, easily leading to the solidification of a tentative identification into a confident, though possibly erroneous, one.

Rule 2. Dealt with instructions on viewing. "*Eyewitnesses should be told explicitly that the person in question might not be in the lineup or photomontage and therefore should not feel that they must make an identification. They should also be told that the person administering the lineup does not know which person is the suspect in the case"* (Wells et al., 1998, p. 23). Rule 3.

Focused on structure of the Lineup or Photomontage. "*The suspect should not stand out in the lineup or photomontage as being different from the distracters based on the eyewitness's previous description of the culprit or based on other factors that would draw extra attention to the suspect"* (Wells et al., 1998, p. 23*).* Further, selecting foils to resemble the suspect is not desirable. The authors do not formally recommend the number of people included in a lineup. Rule 4. Provided direction on the methodology regarding Confidence Statements. *"A clear statement should be taken from the eyewitness at the time of the identification and prior to any feedback as to his or her confidence that the identified person is the actual culprit"* (Wells et al., 1998, p. 27).

The authors believed the four recommendations would not incur any significant cost increases to law enforcement. The most obvious benefit would accrue to innocent suspects. The legal system could gain credibility for making strong efforts to remove the system itself as a contributor to the eyewitness identification problem. Adherence to the recommendations could lessen the need for expert testimony by eyewitness scientists. The authors believed the application of these rules would reduce the vast majority of problems that plagued current practices in eyewitness identification. Perhaps the most important procedural variation the authors did not include in the core rules applied to the use of the sequential lineup. The superiority of the sequential over the simultaneous procedure became evident in cases where administrators violated Rules Two and Three. Additionally, the four recommended rules operate fairly independently of each other, are easily understood by persons in the justice system, and are easy for police to implement. Finally, if administrators used the sequential procedure, the four prior rules would still apply (Wells et al., 1998).

The U.S. Department of Justice released the first national guide, *Eyewitness Evidence: A Guide for Law Enforcement,* for collecting and preserving eyewitness evidence in October 1999. Eyewitness researchers set the scientific background for the recommendations and directly participated, along with law enforcement, defense attorneys, and prosecutors, in writing the guidelines. The eyewitness researchers who participated in this project were Gary L. Wells, Roy S. Malpass, R.C.L. Lindsay, Ronald P. Fisher, John W. Turtle, and Solomon M. Fulero. In their article "From the Lab to the Police Station: A Successful Application of Eyewitness Research," the authors described their experience working on this document.

The authors emphasized much of the coverage that eyewitness research gained in psychology circles sent a potentially misleading message, namely, that eyewitnesses are unreliable, which was not their intent. "…the point of system-variable research is that eyewitnesses could be more reliable if the justice system adopted certain procedural improvements that the research has shown to be effective in reducing eyewitness errors" (Wells et al., 2000, p.587).

The established rules for developing the guidelines called for a consensus with each member's full agreement. The law enforcement members' strong support for using available research to improve the accuracy of eyewitness evidence surprised the researchers. After all, the police would need to change their conduct and procedures. On the converse, the authors were surprised to encounter the level of resistance the prosecutors put forth. The prosecutors in the working group proved the most reluctant to believe the police would possess the capacity to follow the *Guide* and support doing so. They most reluctantly accepted the premise that an eyewitness problem exists. Prosecutors' substantial resistance to these guidelines may result

from the fact they do not share the police's experience of observing witnesses select known-innocent foils.

The *Guide* included several specific items: 1) One suspect per identification procedure; 2) guidelines for the selection of lineup fillers; 3) pre-lineup instructions; 4) avoidance of post-identification suggestions; and 5) the sequential lineup as an optional procedure.

The eyewitness researchers believed that the rules should have extended to double-blind testing, but the police effectively argued against it on two grounds: their peers would view it as an insult, and implementation could be impractical or expensive to bring in another person to show the lineup and be available to testify at trial. The authors pointed out a further shortcoming: not specifying the sequential lineup as the preferred procedure. The authors expressed concern that past convictions based on the simultaneous procedure could be vacated, that witnesses would lessen the sequential effect by asking to review the lineup more than once, and that various unintended consequences could arise if the recommended sequential procedures were not followed exactly (Wells et al., 2000).

Clark & Davey (2005) further explored the "relative decision" debate with their experiment, which proposed that if the target-to-foils shift is the product of relative decision processes, and if the relative decision processes played a smaller role in sequential lineups, then the comparison of target present (TP) and target-absent (TA) sequential lineups should have shown a smaller target-to-foils shift. Sequential lineups produced a higher rate of correct rejections of TA lineups (.292 vs. .167) and a higher rate of correct identifications in TP lineups (.458 vs. .250). The correct rejections did not qualify as statistically significant, but proved consistent with past comparisons of simultaneous and sequential lineups.

The position of the next-best alternative (NB) to the target didn't affect the simultaneous results, although the sequential results were affected by position. TP lineups produced a higher correct identification rate when NB preceded the target. The NB position in the sequential lineup did not affect correct rejection rates. The research revealed a large target-to-foils shift. There was no difference in the magnitude of the target-to-foils shift in simultaneous and sequential lineups. However, the ordering of the next-best and the target demonstrated a large role in producing the target-to-foils shift in sequential lineups. No difference emerged in the no-identification rates as a function of NB order for either TP or TA sequential lineups.

The next analyses examined the identification rates for the target in TP lineups and the NB in TA lineups, considering only witnesses who had not already made an identification. The results were consistent with a constant-criterion assumption and inconsistent with a shifting criterion. These findings ruled out the previously suggested explanation that the target-to foils shift for sequential lineups occurs because witnesses lower their decision criteria over the course of the lineup.

Experiment Two mirrored Experiment One, except in the first experiment researchers included a clear NB foil, whereas in the second, the foils looked relatively similar to the target. Rejection rates did not differ for TP lineups as a function of order, but differed considerably for TA lineups, a different outcome than Experiment One, which did not show any difference in rejection rates as a function of lineup order. The contrast in the results between the experiments pointed to a likely explanation: the criterion shift resulted from the lower similarity of the NB alternative to the target. In both experiments, the sequential lineups showed not only lower false identification rates, but also showed increased correct identification rates (Clark & Davey, 2005).

Gronlund's (2005) SUSPECTS proposed that retrieving encoded distinctive information through recollection leads to a sequential lineup advantage. SUSPECTS further assumed a sequential lineup encourages the use of recollection. Recollection may be more likely in a sequential lineup because it requires more mental resources than a familiarity process. A simultaneous lineup shares the characteristics of a multi-tasking operation, as it involves the concurrent presentation of multiple stimuli and the likely comparisons among photographs by the witness. By presenting lineup members one at a time in a sequential lineup, administrators allow a witness to focus attention on one person at a time and rally the requisite mental resources to engage an effortful recollection process.

Gronlund's examination of data based on height of the culprit revealed a sequential advantage in the relative encoding data. "SUSPECTS posits that the sequential lineup advantage is due to the encoding of distinctive information, the retrieval of that information using recollection, and the greater likelihood of using recollection in a sequential lineup"(Gronlund, 2005, p. 34). An improved understanding of the memory and decision processes underlying the sequential lineup advantage will help formulate more forceful arguments regarding the adoption of sequential lineup procedures by explaining why the procedure is effective. Understanding the underlying memory and decision processes may provide insight into other aspects of the sequential lineup advantage. As reported by Steblay et al. (2001), the hit and false alarm rates for sequential lineups are lower than those for simultaneous lineups, although the false alarm decrease is larger. The reduced hit rate is both a common finding and important for policy decisions (guilty suspects identified at a lower rate) and theory (consistent with the criterion shift explanation). What Ebbesen and Flowe (2002) called a conservative criterion shift may be the greater influence of recollection in a sequential lineup. "A potential explanation for the

sequential lineup advantage generates interesting new questions to explore that promise to enhance our theoretical understanding while providing policy benefits" (Gronlund, 2005, p. 36).

In the Fall of 2003, the Hennepin County, MN, Attorney's Office worked with several police departments to adopt new procedures for actual police field investigations. Klobuchar, Steblay, & Caligiuri (2006) published the results of the project, representing the first field data on double blind sequential lineups. The project focused on felony cases in four municipal police departments, which represented four levels of population and included both urban and suburban jurisdictions. The project involved 280 lineups from 117 cases including 206 eyewitnesses over a twelve month period ending in November, 2004.

Witnesses reviewed every photograph in the sequential lineups as many times as they desired, regardless of whether they had already made an identification. Although the ideal sequential protocol calls for only one viewing of the lineup, due to concerns that overly cautious eyewitnesses would negate some good identifications, administrators allowed multiple "laps" through the lineup while recording the details of the process. The suspect identification rate compared favorably to simultaneous lineups in laboratory studies and exceeded laboratory sequential rates. Repeated viewing of the lineup contributed to significantly more errors in the form of foil choices. See Table 2.3 for results.

Researchers had feared sequential lineups might reduce the number of "jump-out" identifications where the witness immediately and confidently selects a photograph. Of the 175 identifications made, 96 (55%) were "jump-outs" and of those, 99% were the suspect, indicating the sequential format does not appear to hinder "jump-out" identifications. Witnesses who reported some familiarity with the perpetrator chose from the lineup at a very high rate.

Laboratory tests seldom include familiar perpetrators, resulting in lower suspect identification rates.

Table 2.3

Hennepin County Sequential photo lineups

| | Foil selected | Suspect selected | No selection |
|---|---|---|---|
| All sequential lineups | 8% | 54% | 38% |
| 1 view of sequential lineup | 3% | 66% | 31% |
| 2 views sequential lineup | 13% | 32% | 55% |
| 3 or more views of sequential | 29% | 43% | 29% |
| Perpetrator stranger to witness | 11% | 35% | 53% |
| Perpetrator familiar to witness | 3% | 90% | 6% |

The four police departments affirmed implementation of the new protocol could occur smoothly and effectively. Initially, police chiefs hesitated to implement the new protocol because they believed existing lineup procedures worked well. After training and education, the chiefs willingly signed on for the pilot project. Despite early technical difficulties in creating sequential lineups, a side benefit emerged: the size of each photograph increased from 1/6 to a full a sheet of paper, improving viewing conditions. Through the process, investigators learned of witnesses' desire to compare and contrast photographs by asking if they could view more than one at a time. Thanks to the initial training, the investigators learned of the perils of allowing such relative judgments and came to appreciate the sequential format.

The blind administration requirement initially raised more objections. First stood the logistical challenge of finding another person to administer the lineup in smaller jurisdictions, in

cases of great urgency, or in high-profile cases where the whole department was already involved. A second concerned the trust and rapport a lead investigator builds with a witness, particularly a victim of violent crime. Apprehension arose about the concept of an unknown officer working with the witness during the often emotional identification procedure. The final concern involved cases featuring multiple witnesses, which could prove time consuming for the "extra" person employed to administer the lineups.

Each of the agencies overcame most issues with minimal difficulty: the one jurisdiction with only two investigators reported no problems administering the lineups. Some jurisdictions used other department staff, while one jurisdiction used property crime investigators for cases of crimes against persons and vice versa. At the time of the report's writing, one jurisdiction was creating a computer program to administer the lineup with no need for extra officers.

Police chiefs and investigators overall found the pilot project easier to implement and less work than expected. The project also involved minimal cost. Resistance to change proved the largest hurdle to overcome, and future investigators will receive training on the procedures from the beginning of their tenure. Anecdotally, the participants in the pilot project believed that future witnesses would be less likely to make a misidentification using the new procedures.

Better lineup procedures allowed police to rule out innocent suspects more quickly or make arrests to remove guilty parties from the streets. The use of blind administration removed the possibility of rigorous cross-examination at trial regarding the administrator leading the witness to a particular selection. The sequential field tests generated suspect identification rates similar to laboratory and field tests of simultaneous lineups in other jurisdictions. Hennepin County boasted a low filler choice rate, implying less guessing and more protection for innocent

suspects. The Hennepin County pilot also provided field data on the effects of multiple viewings of sequential lineups; the data indicated identifications are likely more reliable when the witness makes an identification during the first viewing of the lineup. The data indicated sequential lineups do not compromise jump-out identifications, and blind sequential lineups worked well in cases involving familiar perpetrators (Klobuchar, Steblay, & Caligiuri, 2006).

In the face of increasing DNA exonerations, the Illinois state legislature commissioned an in-depth study of the sequential lineup and the double-blind procedure in actual police cases. Three jurisdictions participated in this study: Chicago, with a population over three million, Joliet, a municipality of 130,000 residents, and Evanston, with a population of 75,000. The study ran from October 1, 2004 until September 30, 2005. The study employed lineup formats based on the following guidelines: random and predetermined selection; conduct of both simultaneous and sequential identification procedures by the same officers; and randomized by type of crime committed. A blind administrator presented sequential lineups; if none was available, then a simultaneous presentation was used. Implementation of the guidelines confounded the variables with an officer who was aware of the suspect's identity conducting all simultaneous lineups, and officers who lacked that knowledge conducting all sequential lineups (Winzeler, 2008).

Ultimately, the police conducted 319 simultaneous lineups and 229 sequential lineups. Suspect selection rates exceeded those reported in laboratory settings while foil selections were greatly reduced. See Table 2.4 for results. In Chicago and Evanston, witnesses did not select a single foil in a simultaneous, non-blind lineup, whether it was a live lineup or a photomontage. When viewing the photomontages in the precinct, suspect selection rates went up in the simultaneous, single-blind format; changing the locales in the sequential double-blind

presentation produced no difference in selection rates. The author concludes that all suspect identifications are correct and all foil selections are errors.

Table 2.4

Illinois Study

| **FORMAT of presentation** | N | Suspect selection | Foil selection | No selection |
|---|---|---|---|---|
| Simultaneous | 319 | 59.9 % | 2.8 % | 37.6 % |
| Sequential | 229 | 45 % | 9.2 % | 47.2 % |
| Simultaneous at precinct | | 68.5 % | | |
| Simultaneous in field | | 47.2 % | | |

> "The Illinois data shows that the sequential, double-blind method as proposed by scientific research did not prove to be a superior lineup procedure when compared to the simultaneous method as currently employed by law enforcement and, in fact, proved to be inferior under the measure of known errors" (Mecklenburg, 2006, p. 47).

Glaze's (2007) review of the so-called "Mecklenburg study" in Illinois points out several flaws, the first of which was its aim to gather information to compare the sequential procedure with the effectiveness of the simultaneous procedure. Second, allowing the police officers to decide to administer the lineup simultaneously as a function of convenience flawed a supposedly scientific study. Third, officers knew the study was testing new ways to conduct identification procedures and their knowledge may have affected their approach. The disparity between simultaneous lineups (319) and sequential lineups (229) in a supposedly random distribution supports that hypothesis. Finally, an officer who knew the suspect's identity always conducted the simultaneous lineups and may have influenced the witnesses' tendency to pick the suspect. The study did produce a positive outcome demonstrating the criminal justice system could

implement a sequential lineup procedure, contrary to some detractors' beliefs (Glaze, 2007)(Winzeler, 2008).

Officers' comments in a post-study survey seem to reflect their bias. One such example: "When is the government and the criminal justice system going to stop permitting a small but vocal group of liberal thinkers, whose only concern is the rights of criminals, to dictate procedures and start doing its job of protecting the innocent victims and witnesses?" (Winzeler, 2008, p. 1608). The study reported a 2.8% error rate for simultaneous procedures, substantially lower than the 20% error rate reported in other field studies. Critics contend this discrepancy points to some form of administrator bias.

Supporters point out the study accomplished its goal of comparing the "traditional" procedure of simultaneous non-blind lineups, with the "novel" procedure of double-blind sequential presentations. They suggest the study is reliable, despite not replicating past results. Supporters contend the use of real eyewitnesses, real crimes, and real victims explain the differences. "Supporters also suggest that critics of the study are social scientists married to their own theories and are unwilling to admit they could be wrong" (Winzeler,2008, p. 1609).

Loftus, Wells, & Stahl (unpublished) responded to the Mecklenburg Study by applying a mathematical theory to the data collected in Illinois and arrived at very different conclusions. The Illinois data shows a rise in suspect identifications in the Traditional (simultaneous, non-blind) condition (~60%), compared to the Novel (sequential, double-blind) condition (45%). The Mecklenbug report implies these extra 15% are all guilty. However, if the percentage of innocent lineup suspects exceeds zero, then the false-identification rate, along with the correct-identification rate must rise in the Traditional compared to the Novel condition.

The authors decried Mecklenburg's claim that the filler-identification rate was lower in the Traditional condition (2.8%), compared to the Novel (9.2%). Mecklenburg seems to claim that "filler identification" provides a valid estimate of "false identification of an innocent suspect," which is absurd. Identifications of innocent suspects must fall within suspect picks, never within the filler picks. A witness can only identify a filler by chance. A false identification of an innocent suspect may occur by chance or by an administrator's leading the witness to the suspect. Common sense would suggest an administrator would not lead a witness to a filler. So in the Traditional condition, innocent suspects have a higher chance of being selected than fillers.

Loftus, Wells & Stahl devised a theory based on a standard of signal detection theory and tailored it specifically to a lineup situation. To test their theory, they applied it to data culled from the meta-analyses conducted by Steblay et al. (2001, 2011). The results demonstrated the theory accurately described data in lineup situations.

The authors noted that, as the Illinois study was conducted in real situations rather than a laboratory, an important piece of information is unknowable: the proportion of guilty versus innocent lineup suspects. The authors generated predicted data assuming a range of proportion of guilty suspects. For ease, they chose 50%, 70%, and 90%, but ultimately discovered their main conclusions minimally depended on the actual proportion of guilty suspects.

In alignment with previous studies, the theory predicted a witness criterion for identifying a suspect in the sequential lineup exceeded that of the simultaneous. Additionally, the estimated probability that the lineup administrator would guide a witness to the suspect was relatively high.

The Mecklenburg data demonstrated false identification rates in the Traditional condition substantially exceeded those of the Novel. "The increased identification rates in the Traditional condition support the proposition that police officers administering lineups cue witnesses to

select police suspects *or* that witnesses identify suspects based on relative judgment rather than independent memory, or both" (Loftus et al., p. 15).

The authors found little difference between the proportions of presumed-guilty suspects, so they focused on results at the 70% presumed guilty rate. The ratio of correct identifications in the Traditional versus Novel conditions was .534/.436 = 1.227. The ratio of false identifications in the Traditional versus Novel conditions was .064/.010 = 6.462. While correct identifications increased by approximately 23% moving from the Novel to the Traditional condition, false identifications grew by more than 500%. The proportion of false identifications in the Traditional condition turned out to be .107, while the corresponding proportion for the Novel condition was much lower at .022. Thus, given a suspect identification, approximately five times as many false identifications occurred in the Traditional compared to the Novel condition.

As others have pointed out, the Illinois study confounded the simultaneous/sequential variables with the double-blind/non double-blind, but the same theory and parameter values that had correctly predicted the actual data generated the "missing data." For all presumed proportions of guilty suspects, both the non-blind condition and the simultaneous presentation increased the identification rate of both guilty and innocent suspects. The study concluded "*when a witness identifies a suspect, the highest probability of correctly identifying a guilty suspect and the lowest probability of falsely identifying an innocent suspect occur in the Novel, i.e., the sequential/double blind condition*" (Loftus et al., p. 17). Finally, the authors compared the relative effects of the two variables. In terms of increasing correct identifications of guilty suspects, the two variables showed roughly equal effects. In terms of decreasing false identifications of innocent suspects, a double-blind line up presentation demonstrated far more

potency than the effect of sequential presentation. According to the theory, the probability that a lineup administrator will guide a witness to the suspect is 79%.

The authors concluded by responding to Mecklenburg's conclusion that the Illinois data supported maintaining the traditional lineup procedure due to the procedure's demonstrated effect of increased suspect identifications and decreased filler identifications. "This argument rests on the assumption that a suspect identification is always good, no matter how it comes about" (Loftus et al., p. 20). The authors strongly disagree with Mecklenburg's conclusions.

McQuiston-Surrett, Malpass & Tredoux (2006) reviewed the existent literature with an eye towards challenging the existence of a "sequential superiority effect." The authors found results varied as a function of study methodology, with the effect occurring with some study designs and not others. Specifically, the sequential presentation "stopping rule," which prevents a witness from viewing more photographs after she has made a selection, demonstrated the effect. The authors found a great deal of variability regarding the presentation of sequential lineups, which greatly affected the outcome. Their review, similar to Steblay et al.'s 2001 meta-analysis, found more suspect identifications occurred in simultaneous than sequential lineups, a factor that merits consideration. The authors concluded, "(W)e argue that the research base for SEQLs may not be sufficiently developed from a methodological or theoretical point of view to currently advocate for its implementation to the exclusion of other procedures" (McQuiston-Surrett et al., 2006, p. 161).

Flowe & Ebbesen (2007) conducted two experiments to test whether the similarity of the target face relative to the foils in the lineup affected remembering. Low similarity lineups produced larger choice rates and errors in both simultaneous and sequential formats compared to

high similarity lineups, suggesting lineup similarity affected criterion placement. The authors concluded the similarity structure of the lineup can affect criterion placement. In both formats, look-alike selections occurred at a higher rate in lineups in which the foils were lower in similarity to the study face. The results suggested that sequential witnesses make meta-comparisons during the identification task, possibly making relative comparisons similar to the manner outlined by Wells et al. (1998).

In 2007, Wright investigated the weight potential jurors afford the probative value of different outcomes from witnesses viewing sequential or simultaneous lineups. Participants received a description of the case that included both incriminating and exonerating information. Eyewitnesses viewed either a sequential or a simultaneous lineup, selecting the suspect, a foil or making no identification. The participant juror decided whether to render a guilty verdict based on the information presented. Identifications in either lineup format greatly influenced the probability of a guilty verdict. Through the dissemination of additional questionnaires, the author discovered the potential jurors imposed guilty verdicts in cases of identification at a higher rate than their actual belief of guilt, indicating the high premium placed on eyewitness identification. The author also concluded that prospective jurors did not distinguish between eyewitness identifications from sequential and simultaneous lineups, indicating jury education may be necessary during the trial phase of an eyewitness case.

Carlson, Gronlund and Clark (2008) investigated the claims of researchers who suggested a sequential superiority effect. The authors argued that Meissner et al.'s (2005) results of parallel decreases in correct and false identification for sequential lineups compared with simultaneous lineups, suggested that sequential lineups produced a conservative shift in the response criterion,

but with little change in identification accuracy. They suggested witnesses' diminished willingness to choose overall reduced the false identification rate for the sequential lineup. They also pointed to McQuiston-Surrettt, Malpass, & Tredoux's (2006) study which showed that in laboratory studies, sequential viewers were led to believe they would view more photographs than they actually did, unlike a simultaneous array. Additionally, simultaneous viewers focused on answering one overarching question, but those six person sequential lineup viewers needed to make up to six decisions. Zimmerman (2006) demonstrated that equating these two factors in simultaneous and sequential lineups caused the sequential lineup advantage to disappear.

The authors ran two experiments to compare simultaneous and sequential lineups, and reviewed identification data representing 812 participant witnesses. The false identification rate in sequential lineups produced a .30 rate and simultaneous lineups .37; not a statistically significant disparity. The simultaneous photo lineup proved 1.6 times more likely to result in a suspect identification than the sequential lineup. The authors found only biased lineups produced an advantage for sequential formats.

The authors questioned how the sequential superiority effect came to dominate the literature. They suggested perhaps others thought if the use of a sequential lineup improves a bad situation, then it improves all situations. They also suggested the use of the "same-foils" design played a role. In such a design, the target-absent lineup is constructed using the target-present lineup and replacement of the perpetrator with the innocent suspect. The police cannot construct such a lineup when they have an innocent suspect; the absence of a perpetrator renders the task of creating foils resembling the perpetrator impossible.

The authors offered three possibilities to explain the sequential advantage that occurred in this restricted set of circumstances. First, utilizing Clark's (2003) WITNESS model, chosen lineup members were well matched to the perpetrator or better matched than other foils. In this instance, the witness would identify the lineup member with the highest match to memory in a simultaneous lineup for which the NB difference is large, but would not in a sequential lineup, where the NB was below criterion. Second, if one individual stood out from the others on the basis of a substantial familiarity advantage, participants may feel no need to further interrogate their memory. A sequential lineup minimizes this effect, because the nature of the presentation hinders the degree to which anyone stands out. Also, recollection requires more cognitive resources than does familiarity and, with a sequential lineup, the witness makes a decision about one face at a time, affording the availability of more resources to interrogate memory. And finally, during the course of a sequential lineup, witnesses may learn from their exposure to foils presented before the suspect. Correct identifications increased when the guilty suspect appeared later in the lineup, while false identifications of the innocent suspect remained constant.

The authors looked at choosing rates as a function of lineup fairness; see Table 2.5 for the results. A reduced choosing rate protects innocent suspects in a target-absent lineup, but can result in the failure to identify a guilty suspect from a target-present lineup.

Table 2.5
Choosing Rates in Sequential versus Simultaneous by Fairness of Lineup

| **FORMAT of presentation** | Biased | Intermediate | Fair |
|---|---|---|---|
| Simultaneous | 76 % | 61 % | 60 % |
| Sequential | 50 % | 51 % | 49 % |

Gronlund et al. (2009) diverged from previous studies by comparing sequential and simultaneous lineups through the lens of alternate variables: viewing conditions during the crime; quality of the perpetrator's photograph; and the similarity between the innocent suspect and the perpetrator. Based upon Carlson et al.'s 2008 study and Carlson & Gronlund's (2008) study, Gronlund concluded "In sum, fairness seems to play a role in the appearance of the sequential advantage" (Gronlund et al., 2009, p. 141). The suspect's placement in either position #2 or #5 in both the sequential and simultaneous lineups represented an additional variable.

The authors found the sequential lineup advantage lacked strength; sequential advantages emerged in only two circumstances out of 24, while three advantages emerged in the simultaneous format. The quality of the eyewitness's view of the crime did not produce a measureable difference, nor did lineup fairness play a role. The suspect position emerged as a factor in all five of the significant variables. All three simultaneous advantages arose when the suspect was in position two, which was center top row. Both sequential advantages occurred when the suspect was in position five. False identification rates positively correlated with suspect position (Gronlund et al., 2009).

In 2009 a series of articles appeared in the British Psychological Society Journal debating the merits of the sequential lineup. Lindsay et al. (2009) fired the first salvo. The authors stated "Lindsay and Wells (1985) designed the sequential lineup to reduce reliance on relative judgments" (Lindsay et al., 2009, p. 14). They further stated meta-analyses settled the issue of the sequential advantage showing, on average, lower incorrect identification rates with sequential versus simultaneous lineups. The authors acknowledged continued debate about the cause of sequential advantage; the use of a relative judgment strategy, or some other explanation. They

cited Flowe & Ebbesen (2007) as favoring the signal detection conceptualization. Compared to simultaneous lineups, sequential lineups raised the response criterion and thus reduced choosing, but did not improve discriminability. Sequential lineups thus produced more conservative decisions, leading to witnesses' decreased willingness to make a selection.

The authors suggested the relative judgment and signal detection theories may not be competing explanations; instead, they emphasized different facets of the decision-making process. Signal detection theory described decision-making under conditions of uncertainty. The fact that the data pattern produced by simultaneous and sequential lineups paralleled those found in other contexts that use fewer numbers and more conservative decision strategies, did not entirely explain the phenomena. Viewing the same photos sequentially did not necessarily lead to a more conservative decision. Sequential lineups did not appear to make witnesses reluctant to choose; instead, witnesses became less willing to choose just anyone. Additionally, the decrease in choosing did not explain how witnesses made choices.

Signal detection relied on the calculation of two primary dependent variables, hits and false alarms, which formed the basis for the calculation of discrimination and response criterion. Hits compared directly with correct identifications; not so with false alarms. Technically, a choice of a foil was a false alarm. When a witness chose a photograph from a six-person lineup, they were also rejecting five others. Was this one decision or six? The issue's complexity grew when comparing a simultaneous lineup, which seemed to require a single decision, to a sequential lineup, which clearly required multiple decisions. Wells preferred a Bayesian approach to lineups; the Bayesian diagnosticity ratio resembled discriminability because it combined suspect selection data from both TP and TA conditions. "Meta-analyses support a

reduction in correct identification using sequential lineups so the data are consistent with both approaches" (Lindsay et al., 2009, p. 16). As originally conceived, the sequential lineup involved a complex set of steps and rules. The degree of required adherence to all aspects of the procedure to produce the superiority effect posed a challenge. Some argued this requirement provided sufficient rationale to abandon adoption of sequential lineups; however, DNA would not be in use if all questions about the technique required resolution in advance of its adoption.

The difference in correct identification rates between sequential and simultaneous lineups decreased when using live staged events. The quality of exposure to the target, which influenced the witness's memory trace for the perpetrator, may be the most important factor. Some studies have argued that simultaneous lineups promoted guessing and that the correct identification rate from sequential lineups was more reliable, due to the reduction in guessing. When witnesses have good exposure to criminals, they are likely to recognize the perpetrator in a lineup regardless of the presentation method. On the other hand, when witnesses have poor exposure to criminals and therefore have weak memory traces, they make fewer selections. Because simultaneous lineups encouraged guessing, more selections should have occurred, and if the target was in the lineup, some would be correct.

Other studies have shown that foil choices occurred in about 20% of real-world lineups, and some real-world suspect identifications also would prove erroneous. Thus, at least 20% of real-world witnesses selected innocent people from lineups. Fear of lost convictions lay beneath opposition to sequential lineups. The possibility that some guilty people will go unpunished does not provide sufficient cause to abandon procedures designed to protect innocent people from wrongful conviction. Identification focuses interest on a particular suspect. If the identified

person is truly the perpetrator, corroborating evidence will exist. If such evidence does not emerge, the validity of the identification merits questioning. The authors further pointed out that sequential lineups may reduce the number of witnesses identifying suspects, rather than entirely eliminating identifications from such cases. Further, "unless criminal-absent lineups are extremely rare, and we believe they are not rare, protecting the innocent is paramount" (Lindsay et al., 2009, p. 20).

Their argument continued that prosecutors and the courts should prefer sequential lineups because of the decreased likelihood that a guess lies at the root of the evidence presented. They claimed evidence supports the conclusion that sequential lineups dramatically reduce false positive identifications from target-absent lineups. Failure to obtain an identification does not rule out a conviction; if the police possess enough evidence against someone to place them in a lineup, then they can make a case against the suspect without an identification. If no case exists without an identification, then no corroborating evidence exists and the risk of wrongful conviction escalates. In conclusion, if a witness possesses a strong, clear memory of the criminal, the witness should make an identification regardless of the lineup presentation method.

Malpass, Tredoux, and McQuiston-Surret (2009) reacted in their paper, "Response to Lindsay, Mansour, Beaudry, Leach and Bertrand's 'Sequential lineup presentation: Patterns and policy.'" The authors argued the claim of sequential superiority relied on errors in the research process, and that reductions in correct identifications offset reduced false identifications with sequential lineups. They rejected the assertion that the loss of correct identifications can be dismissed as guessing, stating this was speculative and lacked published empirical support. They further rejected the suggestion that false identifications are necessarily more valuable for society

to reduce, than are correct identifications to attain. The authors further questioned whether the sequential lineup improved eyewitness identifications.

This same team of authors next presented their thoughts in "Public policy and sequential lineups." They presented five conclusions: (1) minimal evidence exists to support the claim that sequential photomontages lower false identifications; (2) scant evidence exists to support the claim that factors commonly labeled as the sequential lineup together produce lower numbers of false identifications without additional offsetting effects; (3) much of the literature contains several confounds in research design and additional offsetting effects; (4) recent research shows sequential lineup superiority appears only with specific design variables; and (5) the body of research on sequential lineups does not adequately satisfy the needs of policy to justify its required use as the sole identification procedure throughout the criminal justice system. Finally, they argued, as the de facto research and development team for the criminal justice system, psychology researchers must only recommend procedures that offer a clear improvement over current policy.

Lindsay, Mansour, Beaudry, Leach, and Bertrand (2009) respond in "Beyond sequential presentation: Misconceptions and misrepresentations of sequential lineups." As a shortcut, they refer to Malpass et al. as "MTM." Some points of contention with MTM's assertions: (1) the original description of the sequential lineup called for a combination of several techniques that contributed to increasing the difficulty of using a relative judgment strategy; (2) relative judgments led to a higher false positive rate and sequential presentation, in combination with several other aspects of the procedure, can reduce witnesses' reliance on relative judgments. A sequential presentation involves more aspects in its procedure; and (3) MTM concluded that

sequential lineups led to 4.67% false identifications, while simultaneous lineups led to 8.5% false identifications. Annually, law enforcement agencies conduct approximately 75,000 lineups in the United States. The suspect is innocent in many of these cases; estimates range from 20% to as high as 50%. An identification unsupported by corroborating evidence will produce about a 70% chance of conviction. Using simultaneous lineups will likely lead to the wrongful conviction of 570 to 1,425 more innocent people annually than would occur with the use of sequential lineups. No system is perfect and some innocent people will always be convicted, but knowing and not applying the means to reduce wrongful convictions is unacceptable.

Goodsell, Gronlund, & Carlson (2010) assumed the challenge suggested by other researchers regarding the importance of deriving a cogent explanation for sequential lineups' superiority to simultaneous lineups before offering policy recommendations. The authors used Clark's (2003) WITNESS model for their study. Of the 54 simultaneous-sequential comparisons in which the choosing rates were equal, no sequential advantages emerged. Of the 108 comparisons with unequal choosing rates, 18 simultaneous advantages and eight sequential advantages developed. A conservative criterion shift for sequential lineups produced the sequential advantage demonstrated by WITNESS.

Five of the 10 examined experiments demonstrated no sequential advantage, as measured by a comparison of the probative value of simultaneous versus sequential suspect choices. WITNESS failed to approximate the sequential data of Lindsay et al. and produce a sequential advantage of sufficient magnitude. The authors believed this indicated WITNESS lacked the flexibility that witnesses bring to bear on identification evidence.

The authors developed several potential explanations for the sequential lineup advantage. They proposed a shift to a relative judgment strategy coupled with a criterion decrease, with the decision criterion decreasing over the course of the sequential lineup. They proposed two memory modifications which involved enhancing the quality of the memory probe as the sequential lineup unfolds. One version added more features to memory; the other replaced poor features with better ones. Both the decision and memory explanations may prove correct in different circumstances. For instance, if a witness feels pressure or motivation to make an identification, she may adjust her criteria, especially after viewing several poor foils. If another witness has a good memory for the perpetrator, when the foils are good ones he may successfully employ a better memory probe as the lineup unfolds.

Clark, Erickson, & Breneman (2011) asked "Do suspect identifications based on absolute judgments have higher probative value than suspect identifications based on relative judgments?" (Clark et al., 2011, p. 364) Using Clark's WITNESS model, the authors showed a consistent advantage for absolute judgments over relative judgments for suspect-matched lineups. Suspect-matched lineups, a common law enforcement strategy, feature foils that match the suspect rather than the description of the culprit. Most laboratory experiments use the same foils in two lineups, with the culprit replaced in the TA lineup and that person designated as the innocent suspect. In real-world lineups, the foils would change to match the new suspect. This experiment utilized both same-foils lineups as one condition, and suspect-matched foils as another variable. Simulations of the same-foils lineups showed a complex interaction based on the accuracy of memory and the similarity relationships among lineup members. The authors suggested a baseline for considering the operation of relative and absolute judgments in simultaneous and sequential lineups.

Palmer & Brewer (2011) analyzed 22 experiments that compared sequential and simultaneous lineups using a compound signal-detective model specifically designed to describe decision-making performance on tasks such as eyewitness identification tests. They observed:

> "One primary point of contention amongst researchers is whether the Difference in identification performance between sequential and simultaneous lineups represents a difference in *discriminability* (i.e., the witnesses' ability to distinguish the culprit from other lineup members) or *response bias* (i.e. , the tendency of witnesses to choose from or reject a lineup), constructs rooted in signal detection theory" (Palmer & Brewer, 2011, p. 1).

The authors concluded their review provided the first direct evidence for the sequential advantage: sequential presentation prompts witnesses to adopt a decision criterion that is both more conservative and less biased than the simultaneous presentation. Further, to the extent a shift from relative to absolute judgments drives the sequential lineup advantage, the relative-absolute distinction represents a difference in response bias. The authors claimed the results demonstrated a conservative shift in responding, not improved discriminability, explained the sequential advantage. The results also indicated the sequential presentation reduced bias in criterion setting. They maintained the fact that the sequential advantage reflected a conservative shift in responding did not necessarily indicate a weakness in the sequential lineup procedure; rather, this conservative shift was responsible for the higher accuracy rates observed for sequential presentations.

Palmer and Brewer hastened to point out less biased responding did not always produce higher accuracy rates. Lenient, rather than unbiased, responding maximized accuracy in situations where the use of TP lineups outweighed TA lineups. Conservative responding maximized accuracy when the rate of TP lineups was low. Because these rates in actual police

investigations are unknown, the authors cannot be certain whether less-biased responding will produce greater accuracy in these settings.

Recently, Steblay, Dysart, & Wells (2012) conducted an additional meta-analysis of 72 tests of simultaneous and sequential lineups from 23 different laboratories involving 13,143 participant-witnesses. 27 tests used simultaneous/sequential by TA/TP designs. The analysis concluded sequential presentations were less likely to result in identification, but proved more diagnostic of guilt than simultaneous lineups. In 27 tests, an 8% gap existed between correct identifications favoring simultaneous over sequential, a substantially smaller gap than the 15% found in the 2001 meta-analysis and in the full 72 test review. The lower error rate for TA lineups with the use of sequential lineups remained consistent. See table 2.6 for results.

Table 2.6

Sequential versus Simultaneous presentations in the 27 test subset

| **Eyewitness Decision** | **Sequential** | **Simultaneous** |
|---|---|---|
| Culprit-Present line-up | | |
| Culprit ID | .44 | .52 |
| Filler | .19 | .25 |
| No Choice | .39 | .24 |
| Culprit-Absent line-up | | |
| Correct rejection | .68 | .46 |
| Filler | .32 | .54 |

Some researchers questioned the previous meta-analysis by Steblay et al. (2001), regarding the Lindsay lab and whether so many studies originating with Lindsay had skewed the

sequential advantage result. In this meta-analysis, only 36% of the adult witness dataset and 17% of the full-design dataset originated from the Lindsay lab. “Results of the comparison reveal that the significant effects for both culprit-present and culprit-absent lineups produced through Lindsay’s lab are reliably evident in other laboratories and vice versa” (Steblay et al., 2001, p. 16). The lab generated a significantly larger sequential advantage when the culprit-absent lineup included a designated innocent suspect. The Lindsay lab produced a 20% false identification reduction between sequential and simultaneous lineups, versus 5% in other labs.

Identification of a suspect from a sequential lineup proved 1.34 times more diagnostic than one from a simultaneous lineup. If the identification rate of the known-innocent suspect in the culprit-absent condition was the ratio denominator, the sequential lineup was 1.58 times more diagnostic. A higher diagnosticity ratio in this analysis determined lineup superiority. In the studies reviewed, the diagnosticity of the sequential lineup worked out to 2.94, while the simultaneous diagnosticity resulted in 1.86. See Table 2.7 for results.

Table 2.7
Diagnosticity Ratios

| **FORMAT of presentation** | Overall Diagnosticity Ratio | Known Innocent in TA lineup Diagnosticity Ratio |
|---|---|---|
| Simultaneous | 5.78 | 1.86 |
| Sequential | 7.72 | 2.94 |

Reviewing tests consisting of unpublished studies, those involving young or older witnesses, those that do not include both culprit-present and culprit-absent lineup conditions, and those that do not meet the criterion for testing above the chance levels of identifications, the authors found the culprit-present effect size significantly exceeded that of the full design set.

> "This outcome tells us that a reduction of diagnosticity for the sequential lineup is associated with factors of study sample, design and quality." "A significant sequential advantage in culprit-present lineups is apparent no matter what the stopping policy or which decision governs the handling of multiple identifications. Also, the diagnostic benefit of the sequential lineup surpasses the simultaneous lineup under any of these strategies" (Steblay et al., 2012, p. 24).

The authors concluded the sequential lineup in the current data produced greater diagnosticity because the ratio of culprit identifications to misidentifications of the innocent suspect was greater with sequential lineups, not because the rate of choosing overall was lower.

The authors addressed policy issues in light of their belief in the superiority of the sequential lineups. They posed a status-quo hypothetical: If the sequential lineup was the status quo and expert researchers suggested using the simultaneous, with a 1.62 greater likelihood of identifying a guilty suspect, would the criminal justice system accept that recommendation? They asked why witnesses need to see the remaining lineup members in a sequential presentation before deciding whether a specific individual is the culprit. "It can be argued that an eyewitness who 'needs' a simultaneous lineup is a witness whose memory is not strong enough to carry the burden of determining the fate of a suspected person" (Steblay et al., 2012, p. 36).

Criticism from others regarding the "order effect" inspired the authors to argue that the objective of a lineup is to weed out witnesses who tend to identify a person who merely resembles the culprit. Good foils that precede the suspect in a sequential lineup act as lures, filters of weak witnesses (whose memories fail to reject foils) from a strong witness (who easily rejects foils). Therefore, the sequential lineup maintains a higher standard. The higher correct rejection rate, 22% fewer identifications for culprit-absent lineups, "saves" these witnesses for a later lineup that includes the culprit. Once a witness identifies a foil, he cannot view another lineup if the police later find the real culprit. If 22% of the witnesses are "saved" by not making

an erroneous identification in a target-absent sequential lineup, then up to 10% more guilty culprit identifications could occur. Those witnesses have a 44% chance of correctly identifying the culprit in a subsequent sequential lineup, thus arriving at 10% more correct identifications.

In response to the 8% drop in culprit identifications via use of the sequential lineup, the authors argued that Wells (1993) demonstrated a large portion of witnesses simply shifted their selection when a suspect disappeared from the lineup. Had the witness used true recognition, he would have recognized the absence of the culprit. If a witness picks a culprit when he is present and picks someone else when he is absent, does the pick qualify as a true identification? The meta-analysis shows reliable evidence of a higher choosing rate from culprit-absent simultaneous lineups (54%) versus sequential lineups (32%), evidence that guessing is more common with simultaneous lineups. If a witness could "identify" the culprit from a simultaneous lineup, but could not do so with the identical lineup presented sequentially, does this represent the loss of an identification or the loss of a guess? Law enforcement in the field typically do not use the stopping rule, so the difference between sequential and simultaneous identifications drops to 5%.

Finally, the failure of an eyewitness to identify the culprit does not automatically mean that the guilty party wins freedom, as additional evidence is often available. If three persons view a sequential culprit-present lineup, the odds are 81% that one or more witnesses will identify him. And although not all erroneously selected innocent suspects suffer prosecution, jail time and damage by the unfounded suspicions of others, the expenditure of time, effort and money, and the disruption of life required to defend oneself against a mistaken identification ruins lives. Failure to identify the culprit represents one error, whereas falsely identifying the innocent causes two: prosecution of an innocent person and freedom for the guilty (Steblay et al., 2012).

Clark, Gronlund, & Carlson (2012) responded with their analysis of the sequential superiority debate. They stated no controversy exists regarding whether sequential presentation reduces the false identification rate; it does. Controversy exists regarding the extent to which sequential lineups also reduce the correct identification rate. They looked to two meta-analytic reviews that reported different results and reached different conclusions; Steblay, Dysart & Wells (2011) and Clark (in press). Steblay et al. argued that sequential lineups delivered better results than simultaneous lineups, based on higher diagnosticity, whereas Clark concluded that the differences between sequential and simultaneous lineups were "best described as a criterion shift, rather than an increase in discriminability" (Clark et al., 2012, p. 6).

Steblay et al. (2012) aggregated across conditions within each study prior to aggregating across studies, while Clark did not. The disparity in the studies removed the opportunity to compare the relative performance for simultaneous and sequential lineups changes across other independent variables. For example, the Carlson, Gronlund, & Clark (2008) study in which Steblay et al. (2012) reported a measure of effect size (*r*) that signaled an approximately 11% decrease in the sequential correct identification rate compared to the simultaneous correct identification rate, and a 20% increase in the sequential correct rejection rate compared to the simultaneous correct rejection rate. However, individually, the sequential correct identification rates only decreased for two levels of lineup fairness (biased at -25%, intermediate at -19%), but increased by 10% for fair lineups. Similarly, the sequential correct rejection rates increased for two levels of lineup fairness (biased at 35%, fair at 31%), but decreased 1% for intermediate lineups. Only the biased lineup data exhibited a pattern indicated by the aggregate data.

Determining the correct identification rates for sequential lineups and simultaneous lineups was easy; determining the false identification rate for each study proves more complex.

Some studies designated an innocent suspect in the TA lineup and others did not. In those that did not, ANY pick in a TA lineup qualified as a false identification, which the authors know is wrong. Some studies deal with this miscount by dividing the number of foil picks by the number in the lineup, which assumes the lineup is fair. Steblay et al. (2012) reports a 22% reduction in errors when, in fact, had the researchers divided the number of foil selections by the number of persons in the lineup, the reduction in errors would have fallen to only 7%.

Both analyses showed the same general pattern: sequential lineups produced a decrease in both correct and false identification rates, relative to simultaneous lineups. The core difference in the papers lay in the reduction of false identifications relative to loss of correct identifications. The Steblay et al. (2012) analysis showed a reduction of false identifications that proportionally exceeded the loss of correct identifications. The Clark analysis showed the same pattern, but much reduced. For the Steblay analysis, the various measures of probative value all favored sequential lineups over simultaneous lineups; this pattern did not repeat in the Clark analysis.

The differences in the Steblay and Clark conclusions relate to four differences in their analyses: (1) Steblay et al. presented their results to confuse foil identifications with false identifications of innocent suspects; (2) Steblay et al. aggregated across conditions within studies prior to aggregating across studies which reduced the variance; (3) The studies included or excluded led to examination of slightly different inputs by the two analyses; (4) Steblay et al. based their conclusion of higher probative value for sequential lineups on a single measure of probative value, the ratio of correct to false identifications, which increased dramatically as identification rates approached zero. Given that sequential lineups reduce choosing rates, these measures favor the sequential lineup. The Clark analysis showed little to no evidence for the existence of a sequential superiority effect.

Taking up the subject of the so-called "Lindsay Lab Effect," the authors observed that the Lindsay lab studies showed considerably higher false identification rates for simultaneous lineups than those reported by all the other studies. The strong correlation between false simultaneous identification rate and sequential advantage suggests the sequential lineup advantage may have risen with the use of biased lineups, due to the inclusion of poor, low-similarity foils that caused the suspect to stand out. The difficulty in making comparative judgments in a sequential lineup might limit the stand-out effect, which might explain why the Lindsay lab tended to find a sequential advantage.

Carlson et al. (2008) and Gronlund et al. (2009) examined eyewitness identification in simultaneous and sequential lineups with foils that were poor, good, or intermediate. The comparison of biased versus fair lineups affirmed the view that poor foils produce a larger stand-out effect for simultaneous lineups than for sequential ones. Gronlund et al. (2009) showed a sequential lineups disadvantage when the suspect was placed in position 2 and a sequential advantage when the suspect was in position 5. Carlson et al. (2008) obtained this same pattern.

Looking at base rates, p(G)=.9 will have 900 guilty- and 100 innocent-suspect-lineups, whereas p(G)=.6 will have 600 guilty- and 400 innocent-suspect lineups. Using correct and false identification rates of .50 and .20 for simultaneous lineups and .40 and .13 for sequential lineups, one can calculate the resulting number of correct and false identifications. If 90% of lineups include a guilty suspect, then sequential lineups should produce 90 fewer correct identifications and 7 fewer false identifications than simultaneous lineups. Alternatively, if only 60% of lineups include a guilty suspect, then sequential lineups should produce 60 fewer correct identifications and 28 fewer false identifications. Hence, only 2.1 correct identifications are lost for each false identification avoided. "The rate of correct identifications lost for each false identification

avoided will increase to the extent that p(G) is high, and decrease to the extent that p(G) is low" (Clark et al., 2012, p. 31).

Despite all these calculations, the authors stated that readers should not misconstrue this critique as opposition to the implementation of sequential lineups. Ultimately, in agreement with Steblay et al. (2012), they believe that policymakers should retain power to make the decision to implement sequential lineups. "However, to the extent that policy-makers rely on social science in making that policy decision, the social science must provide full disclosure regarding the benefits, the costs, and the current state of scientific understanding" (Clark et al., 2012, p. 36).

Lindsay (1999) discussed the difficulties of ensuring the results of research actually impacted an applied setting. Although he believed the sequential lineup was clearly superior to the simultaneous, a review of actual practices indicated most police forces had not adopted sequential lineup procedures. Police officers rarely read psychological journals, so researchers would have to approach potential users. Lindsay noted police reported they did not believe they needed a new procedure because they rarely arrested innocent people. To understand the utility of the sequential lineup, the police first had to recognize and acknowledge their errors. Subsequently, researchers adopted a different approach with police by asking if they had witnesses who identified foils, and in those circumstances, the consequential results on their cases. When the police understood the sequential lineup could help preserve the credibility of their witness, they shifted their perspective and acceptance of the sequential procedure increased.

Until someone tries out a new method in the field, most practitioners will not embrace a new method based on laboratory research. Even after the adoption of a new method, detractors will challenge it and users may misapply the method. Researchers must support and monitor the implementation of the new procedure. Lindsay concluded, "If applied researchers want their

work to have an impact outside of the psychological literature, they may have to invest a considerable amount of their time and effort to make this happen…we must sell the results of our research rather than simply making them available. Failing to do so will probably lead to the research being ignored by those it was designed to assist" (Lindsay, 1999, p. 225).

The preceding review of studies established that researchers universally agree the double blind presentation is superior to that of a single blind. And while some disagreement still exists on whether the sequential lineup is universally superior, and its effects remain a bit of a mystery, using the sequential lineup reduces the number of incorrect identifications. Further, research indicates the probative value of the sequential presentation decreases if the witness is allowed a second view of the lineup. With these understandings in mind, this author asked law enforcement officers conducting lineups how they presented photographic montages, and what policies guided their actions. Fourteen years after Lindsay's observations, this author believed a majority of law enforcement officers were still not aware of the existent research and had not made recommended changes to their procedures.

## METHODOLOGY

As established in the previous chapters, researchers believe the use of sequential, double-blind photo lineup procedures can reduce wrongful convictions while also capturing guilty perpetrators. The literature review also demonstrated that many law enforcement officers who operate in jurisdictions which maintain policies mandating the use of those procedures, nonetheless do not always follow these recommended procedures. This survey gathered information about actual lineup procedures at larger law enforcement agencies, and the decision-making authority determining those practices. This study sought to gain knowledge about how

officers in the field actually present photomontages, and if they are following the instructions of a higher authority.

The study focused on large local law enforcement agencies, defined as those with 100 or more sworn officers. Small law enforcement agencies often justify the use of single-blind presentations due to lack of manpower; selecting large agencies eliminated that possibility. According to the 2008 census of state and local law enforcement agencies, 17,895 full-time state and local law enforcement agencies operate in the United States. Of those, 12,501 are local police, 3063 are county sheriff's offices, 50 are primary state agencies, 1733 are special jurisdiction agencies and 638 are constable or marshal agencies. Breaking the agencies down by size, 16,798 employ between one and 99 full-time officers. 778 agencies employ between 100 and 249 officers, 237 employ between 250 and 499, 89 employ between 500 and 999 and 83 have 1000 or more officers. This study sent a total of 1016 surveys to the 638 local police departments and the 378 county sheriff's departments with more than 100 sworn officers. The Seattle University Internal Review Board determined that this study did not require a full review, as personal, identifiable, data was not collected. The thesis committee gave the approval and the research began.

Prior to sending the surveys, the researcher, using her network, sought "test" survey responses from several individual officers to assess its usability. The response rate proved dismal; of approximately 37 officers from 24 law enforcement agencies asked to participate by law enforcement colleagues or personal friends, only one completed the survey, while three talked amongst themselves with one representative calling the researcher and providing feedback

on the survey. Though the response rate was disturbingly low, the feedback was useful, leading to small adjustments in the wording of several survey questions.

The Inter-university Consortium for Political and Social Research (ICPSR) maintains data sets for researchers to access for various studies. ICPSR Study #27681, the law enforcement census conducted in 2008, provides basic information about all the law enforcement agencies in the United States, including address information. Study #27681provided the addresses used to send the surveys, all hand-addressed, via US Postal Service to the selected agencies. The survey offered three response options: complete the survey on paper, scan and e-mail it back; complete it on paper and mail back in a pre-addressed envelope; or take a Survey Monkey web-based survey (See Appendix A). Non-responders received a follow-up postcard approximately five weeks after the first mailing.

This survey asked one member from each contacted law enforcement agency to complete a short questionnaire. The instrument was a short-form survey seeking specific information from the responder regarding his/her methodology in presenting lineups over the past 12 months; details of the law enforcement agency's stated policy regarding lineup procedures; a description of any deviations from that policy, including the circumstances and changes in procedure; and identification of the person responsible for setting policy for photomontage procedures. The key questions focused on whether the key law enforcement personnel who show photomontages to witnesses use a sequential or simultaneous methodology, and whether they are adhering to a double- or single-blind procedure. The survey required approximately five minutes to complete.

Due to the low response rate of the pre-study survey, the researcher drafted an "unorthodox" cover letter to accompany the surveys, using humor to catch the attention of law

enforcement professionals at the agencies and encourage participation (see Appendix B). The envelopes were hand-addressed rather than using printed address labels. To further boost participation, those completing the survey through Survey Monkey received an offer to enter a random drawing for a $20 dollar gift certificate to Amazon.com. Approximately one fourth of Survey Monkey responders opted to enter the drawing. One of the responders to the first letter request won the prize through a random drawing.

A follow-up postcard, addressed to the detective division of each agency, featured a colored side with a depiction of Uncle Sam announcing "I Want You to Complete My Survey." Believing that, in the larger agencies, the odds of a survey reaching a detective qualified to respond were poor, the researcher addressed the postcard to the detective division (See Appendix C). Once again, one responder to the postcard request won a $20 Amazon gift certificate.

The researcher received surveys at a post office box in the Criminal Justice department at Seattle University, and was the only person who opened, viewed, and tabulated them. The same protocol governed all questionnaires submitted via the SurveyMonkey, web-based instrument at a password-protected site. The researcher tabulated the results on a personal, password-protected computer. The researcher asked survey responders to include a name and contact information for follow up purposes, and to thank participants. Upon completion of the research project, the author will destroy any such identifying information. The researcher has no financial interest in the results of this study.

Use of the online SurveyMonkey platform produced an unexpected, yet beneficial result: several officers in the same agency could (and did) easily respond to the survey. As will prove evident in the Results section, these multiple responses offered further insight into the officers'

application of various procedures, and their understanding of both the procedures and the site of responsibility for policy setting. Most often, multiple responders from the same agency did not answer each question identically.

In general, the contact methodology generated a higher response rate than the meager response to the test run predicted. The following Results chapter will explain in more detail. Additionally, when thanking responders via their email addresses, the researcher received additional information and requests for information, which provided additional insight into the respondents' agency's procedures or their understanding of such procedures.

The researcher entered all received data into an Excel spreadsheet for ease of interpretation. Examined information included size of agency, state location of agency, number of detectives employed by the agency, number of identification procedures conducted by the responder over the previous 12 months, and percentage of photomontages, live line-ups or in-field show-ups utilized. The rest of the survey focused specifically on photomontage presentations and examined the percentage of photomontages patrol officers, detectives or someone else showed, the percentage of photomontages they showed single blind or double-blind, the percentage of photomontages they presented sequentially or simultaneously, how many photos they showed in each of those presentations, and the location of those presentations; in the field or at the precinct. The final questions related to the site of responsibility for decisions about the presentation of montages, and the circumstances under which presenters showed photomontages in a single blind manner. As mentioned, Email exchanges with respondents and additional comments included on returned surveys provided further information.

At the outset, this study sought to obtain an accurate picture, a "lay of the land," of photomontage practices within larger law enforcement agencies: how their officers and detectives actually conducted photomontages, and to what extent they used live lineups and in-field show-ups. Several factors limit the efficacy of the study: 1) the reliance on the cooperation and participation of law enforcement officers who receive a request from a stranger. In larger agencies, reaching such a person was difficult; 2) the willingness of the responding officer to tell the complete truth about how he conducted identification procedures, especially in cases where the respondent failed to follow stated policy precisely. Three questions on the survey, taken together, attempted to ferret out the level of consistency in using double blind procedures. The first such question asked what percentage of the time a patrol officer, the detective or another person administered the montage. In a double blind situation the correct response would usually be "patrol officer" or "other." A later question asked the responder to state reasons for showing the montage in a single blind fashion. If the responder had previously stated that she used the double blind procedure 100% of the time, then she should provide no reasons for using the single blind procedure. In sum, the results are qualitative rather than quantitative, but illustrate the range of how agencies are responding to the body of research on identification procedures, not theoretically, but in practice.

## RESULTS

This study proposed to learn about the eyewitness identification procedures and policies that U.S. law enforcement agencies boasting 100 or more sworn officers currently use in the field. Additionally, it sought to identify the authority governing a jurisdiction's eyewitness identification procedures and, by inference, the extent of the officers' understanding of those procedures and their impacts on witness's selections. Averaging the responses to each question

comprised the standard analytical protocol, augmented by further analysis of responder comments.

**Demographics**

The first analysis defined the demographics of respondents and non-respondents by size of agency, number of detectives employed, and state of origin. The next analysis focused on photomontage methodologies and locations. The use of an online survey produced an unexpected result: seven agencies submitted multiple responses from different individuals, which allowed for the conduct of an intra-agency comparison. Finally, a compilation and examination of additional, unsolicited responder comments and queries may shed light on their level of understanding regarding the identification procedures they conduct.

The first wave consisted of 1016 letters and questionnaires, resulting in the receipt of 258 responses, though not necessarily fully completed surveys. The second wave mailed 756 reminder postcards and produced 49 responses, totaling 307 returned questionnaires, a 30.2% response rate from the total number of agencies contacted. Two agencies had just been resent a letter after the researcher discovered an address update, so postcards were not sent to them. Of those 307 responses, 285 completed the survey and 22 answered at least some of the questions, resulting in a 93% completion rate for those responding.

As predicted in the methodology section, larger agencies responded at a lower rate than smaller agencies; see Table 4.1. Only 12 of the 63 agencies employing 1000 or more sworn officers responded, representing a 19% response rate compared to the overall 30% rate. Responding agencies averaged 280 sworn officers, whereas the average agency size of all departments contacted was 397. None of the largest 16 agencies responded; the largest was Harris County Sheriff's Office at the number 17 spot. The responding agencies employed an

average of 40 detectives. The number of detectives may prove relevant, as the researcher believed more detectives than patrol officers would administer line up procedures. This was important for two reasons: 1) in previous studies and surveys, a lack of personnel to conduct double blind procedures became an issue; and 2) more detectives conducting identification procedures could lead to more variation in methodologies employed.

Table 4.1

Responding Agencies

| | Contacted | Responders | Non-responders |
|---|---|---|---|
| Average Size | 397 | 280 | 445 |
| Agencies >1000 | 63 | 12 | 51 |
| Agencies < 200 | 594 | 173 | 421 |
| Response Rate | | | |
| Overall | 30% | | |
| Agencies >1000 | 19% | | |
| Agencies < 201 | 29% | | |

Responses arrived from forty-three states. The non-responding states had fewer agencies that met the 100 sworn officer threshold: Idaho had five agencies, West Virginia, South Dakota and Delaware had only two each, North Dakota and Wyoming had one each and Vermont had none. The number of agencies that met the research threshold of at least 100 sworn officers in the responding states ranged from 1 to 101, with the average number of agencies being 23. The non-responder's average number of agencies with 100 or more sworn officers was 2, suggesting the smaller data set in the non-responding states may have resulted in the lack of responses.

**Procedures**

Table 4.2

Identification Procedures and Procedure Administrators

| **PROCEDURE** | Total | 100% of presentations | >90% of presentations | 0% of presentations |
|---|---|---|---|---|
| Photomontage | 87 % | 46% | 75% | 0 % |
| Live Line up | 1.3 % | 0 % | 0 % | 86 % |
| In-Field Show-Up | 11 % | .7 % | 1 % | 54 % |
| | | | | |
| **ADMINISTRATOR** | | | | |
| Patrol Officer | 11 % | 1 % | 2.5 % | 46 % |
| Detective | 72 % | 30 % | 57 % | 13 % |
| Other | 17 % | 8 % | 13 % | 69 % |

Table 4.2 shows the type of lineup procedure the responders reported using, and which law enforcement personnel presented the procedure to the witness. The most common format was the photographic montage, the focus of this survey. Although not the focus of this paper, or the literature review, the fact that 1% of responding agencies conducted the in-field show-up as their predominant form of identification procedure is notable. One agency employing 34 detectives reported that they conduct as many as 50% of their identification procedures by having the witness look at the suspect's, and only the suspect's, driver's license photo.

As predicted, in a majority of agencies detectives conduct a majority of the identification procedures. Only 8% of responders reported that another person conducted the lineup procedure; that figure should correspond to the percentage of procedures presented in a double-blind fashion.

Table 4.3

Format of Presentation

| **FORMAT of presentation** | Total % | Median % | 100% of presentations | >90% of presentations |
|---|---|---|---|---|
| Single-blind | 59 % | 75 % | 29 % | 42 % |
| Double-blind | 41 % | 25 % | 20 % | 26 % |
| Simultaneous | 61 % | 90 % | 42 % | 55 % |
| Sequential | 39 % | 10 % | 33 % | 34 % |

Table 4.3 suggests that responders utilized the single-blind procedure in far greater numbers than the double blind procedure. Additionally, they employed the simultaneous procedure at an even higher rate. Thirty percent of the agencies reported using both the simultaneous and single-blind procedures at least 90% of the time.

When asked how many photographs witnesses viewed in each procedure, the overwhelming response was 6. For simultaneous presentations, the range varied from 6 to 12 with the average 6.17 and the median 6. Sequential procedures ranged in size from 1 to 20, with the average 6.69 and the median 6. Looking further at the data for sequential presentations alone, around 25% of the time the viewer knew in advance how many photographs she would examine. Approximately 14% stopped looking at photographs once they had made a selection. When viewers did not make a selection on the first pass through, 63% viewed the line up again. Of those who re-viewed the lineup, 79% viewed it the second time sequentially, while 21% viewed the photographs the second time simultaneously.

Respondents reported that 61% of identification procedures occurred at the precinct, versus in the field. Responders supplied information regarding the circumstances under which

they would show a photomontage to a witness in a single blind fashion. Sixty-nine responders cited lack of another officer to conduct the identification procedure, 7 cited comfort of the victim, 117 responded "detective discretion," 15 cited all three, and 24 cited a combination of detective discretion and either victim comfort or no one else available to conduct.

**Policy Level**

Responding to the question of who decides which procedures to use, 37 % responded that the presenter decides, 46% reported that their chief or sheriff sets policy, and 18% reported that the state determines policy. Although responders from 16 states reported that state officials set their policy, in all but two of those states (RI and CT), some responses conflicted with that assertion. Some of the responder's comments from those states follow:

*CT: "New law states that it should be double blind and sequential."*

*GA: "The chief has told us to do double blind going forward."*

*IN: "The state is moving to all sequential format."*

*KY: "Our agency is developing a double blind policy."*

*NJ: "Always double blind."* (although two other NJ responders reported that the detective maintained discretion with respect to the use of double blind.)
*OH: "The law prohibits single blind."* (But the responder reported 40% of his presentations were single-blind.)

*OK: "The chief just switched us to double blind."*

*OR: "Chief just set sequential, double blind, if practical."*

*TX: "Double blind is set by state law."*

*VA: "Double-blind pending at the state level. We show 20% of our photos from social media."*

*WA: "Some case law caused us to switch to sequential."*

**Intra-Agency Issues**

As previously mentioned, 7 agencies provided multiple survey responses, allowing the opportunity to conduct an intra-agency comparison to gauge consistency within agencies. In only one instance did all of an agency's responders provide identical answers across the board. Perhaps not coincidentally, these surveys arrived in one envelope, completed on paper, while all the multiple responders from the other 6 agencies submitted their answers on the web-based survey. The following tables demonstrate the discrepancies.

Table 4.4

Agency 1 Discrepancies

| Question | Responder 1 | Responder 2 | Responder 3 | Responder 4 |
|---|---|---|---|---|
| Photomontages | 50 % | 75 % | 80 % | 100 % |
| Live line-ups | 0 % | 0 % | 20 % | 0 % |
| In field Show up | 50 % | 25 % | 0 % | 0 % |
| Detective | 50 % | 75 % | 90 % | 100 % |
| Who decides? | Self | Self | State | Chief |

*Agency 1 reports discrepancies in lineup format, who administers the lineup, and where the decision-making authority is believed to lie.*

Table 4.5

Agency 2 Discrepancies

| Question | Responder 1 | Responder 2 | Responder 3 |
|---|---|---|---|
| Photomontages | 85 % | 25 % | 40 % |
| Live line-ups | 10 % | 5 % | 20 % |
| In field Show up | 5 % | 30 % | 15 % |
| Detective | 100 % | 99 % | 50 % |
| Single-blind | 100 % | 90 % | 50 % |
| Simultaneous | 100 % | 90 % | 50 % |
| At the precinct | 50 % | 8 % | 40 % |

*Agency 2 reports discrepancies in almost all categories, except where the decision-making authority lies.*

Table 4.6

Agency 3 Discrepancies

| Question | Responder 1 | Responder 2 | Responder 3 |
|---|---|---|---|
| Patrol officer | 30 % | 20 % | 50 % |
| Detective | 70 % | 10 % | 0 % |
| Other | 0 % | 70 % | 50 % |
| Single-blind | 80 % | 25 % | 0 % |
| Who decides? | Self | Chief | Chief |

*Agency 3 reports discrepancies in who administrates the photomontage, whether a single-blind or double blind presentation, and where the authority is believed to lie.*

Table 4.7

Agency 4 Discrepancies

| Question | Responder 1 | Responder 2 | Responder 3 |
|---|---|---|---|
| Photomontages | 98 % | 100 % | 60 % |
| In field Show up | 2 % | 0 % | 40 % |
| Detective | 99 % | 95 % | 80 % |
| Other | 1 % | 0 % | 20 % |
| Single-blind | 99 % | 75 % | 80 % |
| Re-view sequential line up | 50 % | 90 % | - |
| At the precinct | 25 % | 50 % | 80 % |
| Who decides? | Chief | Self | Chief |

*Agency 4 reports discrepancies in all categories of procedures, location and decision-making authority.*

Table 4.8

Agency 5 Discrepancies

| Question | Responder 1 | Responder 2 | Responder 3 | Responder 4 |
|---|---|---|---|---|
| Detective | 75 % | 70 % | 50 % | 60 % |
| Single blind | 20 % | 100 % | 20 % | 100 % |
| Simultaneous | 10 % | 0 % | 0 % | 50 % |
| Sequential; views all photos | Yes | No | Yes | No |
| At the precinct | 60 % | 70 % | 25 % | 70 % |

*Agency 5 reports discrepancies in lineup administrator, single-blind format, simultaneous format, whether the sequential lineup is viewed more than once, and the location of procedures.*

Table 4.9

Agency 6 Discrepancies

| Question | Responder 1 | Responder 2 | Responder 3 | Responder 4 | Responder 5 |
|---|---|---|---|---|---|
| Photomontages | 50 % | 50 % | 100 % | 95 % | 80 % |
| In field Show up | 50 % | 50 % | 0 % | 5 % | 0 % |
| Single-blind | - | 70 % | 100 % | 20 % | 100 % |
| At the precinct | 50 % | 50 % | 25 % | 5 % | 75 % |
| Who decides? | Self | Chief | Chief | Chief | Chief |

*Agency 6 reports discrepancies in procedures used, single-blind format and location of procedure. Only one responder disagreed with the decision-making authority.*

Tables 4.4, 4.5, 4.6, 4.7, 4.8, and 4.9 each show that law enforcement personnel within the same agency agree on little when it comes to identification procedures, suggesting either general ignorance of, or lax adherence to, established policies; in each agency, answers diverged in at least two categories. Respondents at four of the six agencies displayed no internal agreement regarding the authority responsible for policy setting for presentation of identification procedures. Respondents from each of the agencies answered differently regarding the display of photomontages in a single or double blind fashion. Same agency responses proved more internally consistent regarding the use of simultaneous versus sequential formats in presenting photomontages. Some officers showed most of their identifications at the precinct, others did not. This intra-agency view gives insight into the confusion and lack of consistency within agencies, mirroring the situation at different agencies within the same states, and the lack of sufficient theoretical grounding in procedural practices across the country as a whole. As Lindsay (1999) asserted, researchers must get their results into the hands of those who most need to understand the findings.

**Summation**

On average, slightly more agencies are using the double blind procedure than the sequential, which researchers such as Loftus and Clark would applaud. However, upon closer inspection of the data, cause for applause diminishes rapidly. 20% of agencies report always using the double blind format, while 33% report always using the sequential format. This information, combined with the responder' reasons for not using the double blind, highlights the fact that officers remain entrenched in their reasoning to avoid the double blind method and hesitant to embrace the sequential method. This finding mirrors the responses reported in the Mecklenburg Study, but differs from the experiences of the Hennepin County Study. The studies' discrepancy between the levels of officer training on identification procedures may well explain the variation in the studies' officer views. Not surprisingly, change comes more easily with comprehension. Given that a full 30% of agencies still utilize the so-called "traditional method" of simultaneous and single blind presentation 90% of the time, the time is ripe for improvement, which may well come with increased knowledge.

## CONCLUSION AND DISCUSSION

This descriptive research sought information on the eyewitness identification procedures law enforcement officers currently employ, especially photomontages. Has research caught up with actual procedures; are officers conducting their line ups in a double blind and sequential format; and are they aware of the chain of command with respect to decisions regarding eyewitness identification procedures? While the sample size was small, the results proved compelling: despite decades of research and clear understanding regarding the efficacy of certain identification procedures, in-field application of best practices is spotty at best; in addition,

higher authorities, both state governments and department chiefs, are not using their power to standardize these practices.

**Limitations**

Several factors limit the scope of this descriptive research. Due to the enormous challenge of reaching 17,895 law enforcement agencies in the United States, the researcher chose a small subset of 1061: those employing 100 or more sworn officers. Agencies received a cold call request to participate via the U.S. mail; there was no connection between the requester and the receiver, except a plea for assistance. Although a 30 percent response rate under such circumstances represents success, 70% of the contacted agencies did not respond. When considering all law enforcement agencies in the country, only 1.7% participated in the study. Further, the responder's accuracy in reporting affects the results and may skew them in the direction of stated policy, rather than report actual in-field behavior. Additionally, 16% of the responders had not completed an eyewitness identification themselves in the previous 12 months, instead responding on behalf of those who did. Therefore, those responses may not have accurately reflected actual practice, but mimicked stated policy. Analysis of the 7 agencies which provided multiple responders illustrates the challenge with self-reporting as 5 of the 7 agencies had multiple responses to the question of where the decision-making authority lay.

Although Clark, in particular through several papers - Carlson, Gronlund & Clark, (2008), Clark, Erickson & Brenneman (2011) and Clark, Gronlund & Carlson (2012) - has argued the sequential format is not as superior as Lindsay, Wells or Steblay's numerous papers purport, he agrees the sequential format does lessen the number of misidentifications over the simultaneous format. Clark argues the decreased number of correct picks generated by application of the sequential method may not be worth the decreased number of consequential

incorrect picks. However, he believed that decision should lie with policymakers. Several policymakers have spoken; the 1999 NIJ guidelines, as reported by Wells et al. (2000), identify the sequential format as the preferred method. The Hennepin County project, as reported by Klobuchar, Steblay, & Caligiuri, (2006), noted that a sequential lineup featured a full-sized page for each photograph rather than the 1/6$^{th}$ page viewed in a simultaneous format. Witnesses found this larger sized photograph enhanced their ability to identify the perpetrator.

**Results Discussion**

The respondents to this research survey reported using a single blind presentation 60% of the time, while the median response rose even higher to 75%. Forty-two percent of responders reported use of the single blind format at least 90% of the time. This result did not surprise, but still proved disappointing. Even in the two man unit in the Hennepin County study, officers found a way to administer photomontages in a double blind manner (Klobuchar et al., 2006). Analysis of the Mecklenburg data by Loftus, Wells and Stahl confirmed that, of the two presentation variables, elimination of the single blind presentation would reduce misidentifications more significantly. They found misidentifications were five times more likely to occur when the administrator knew the identity of the suspect in the photomontage.

Survey responders reported that they conducted 65% of the identification procedures at the precinct versus in the field, such as at the witness' location. Researchers have found this practice exaggerates the effect of a single blind presentation, putting more pressure on the administrator to elicit an identification and the witness to make a selection.

Similarly, responders reported using the simultaneous format 61% of the time, with the median response 90%. Fifty-five percent reported using the simultaneous format at least 90% of the time. Additionally, as Wells et al. (2000) feared, in the field responders are not conducting

sequential line ups as recommended by the researchers. Twenty-one percent of the time, the witness knew in advance the number of photos he would view. Lindsay, Lea & Fulford (1991) had demonstrated this knowledge encouraged witnesses to make a selection as they proceeded deeper into the lineup. Eighty-six percent of sequential viewers cited in the survey responses continued to look at photographs even after having made a selection, ignoring the recommended "stopping rule." A full 63% of the time the responders reported allowing the witness a second lap through the sequential line up if a selection had not occurred on the first pass. Several studies, including Lindsay et al. (1991), have shown this reduces the effectiveness of the sequential lineup to the point that is scarcely superior to the simultaneous format. Further reducing the effectiveness, 21% of the time the second viewing was conducted in a simultaneous manner.

Seven responders requested copies of this paper when completed, making such comments as:

*"I would love to know the findings of your paper as I was quite intrigued with the survey questions.*

"*…send a copy of your thesis as I'm curious how the rest of the country is doing things."*

These comments, in addition to the seemingly contradictory responses to the questions about showing the photomontages to witnesses and use of double blind procedures, indicate a need for more education for the personnel conducting identification procedures. Likewise, in the work group with Wells et al. (2000), the law enforcement officers displayed a hunger for more knowledge and understanding of the scientific basis for their conduct of identification procedures. The law enforcement survey conducted by Wogalter et al. (2004) found the law enforcement officers almost never received formal training in the administration of identification procedures. Though not specifically measured in this survey, one may surmise that situation

remains the same in many jurisdictions in 2013. The Hennepin County study found that once the officers understood the research behind the methods, their resistance to switching their methodology disappeared. One comment penned to this researcher highlights the adjustment process involved in changing procedures: *"It felt funny the first few times we did a double blind sequential array as a fellow detective would bring the photos to you, wouldn't tell you who the person of interest was and would share minimal details about the case. We've done enough now that we are used to it and believe in its reliability."*

**Policy implications**

It is time to invest in extensive education of everyone involved in the criminal justice system regarding eyewitness identification: starting with the state and other authorities who establish such directives, extending to the detectives and officers across the country, in small departments and large, who work closely with eyewitnesses, and including the nation's prospective jury pool, the entire citizenry. As thoroughly discussed in the literature review, agreement is nearly universal that the double blind presentation lessens the effects of investigator bias and is therefore the optimal procedure in the field. As also discussed in the literature review, officers display more discomfort and express inconvenience with the double blind method. Wells et al. (2000) described working with police officers to develop recommendations, and their expressed discomfort in discussing with their peers the existence of bias in the conduct of single blind identification procedures. In both the Hennepin County and Mecklenburg/Illinois studies of 2006, officers expressed concern about the inconvenience of finding someone to administer the identification procedures in a double blind presentation.

Clearly, the results of this research illustrate the need to provide extensive education for the public at large, our nation's prospective jury pool, policymakers, and personnel conducting

the procedures. As Wright (2007) discovered, jurors did not assess the conduct of an identification procedure - simultaneous versus sequential viewing in judging the validity of eyewitness testimony, even while he confirmed the high value jurors place on eyewitness testimony. In several, but not all, jurisdictions, eyewitness researchers are allowed to testify as experts in the field to educate the jury on these factors. Expanding and standardizing the use of expert testimony to disseminate the science behind identification procedures is critical to help promote the continued adoption of correct procedures in the field. Policymakers of course must understand the science of identification procedures to help guide law enforcement personnel to apply the best possible methods, backed by decades of research. Finally, and perhaps most importantly, the individuals administering the identification procedures must understand the intricacies and implications of the methodologies they use. The allowance of a witness to review a sequential lineup, and worse, in a simultaneous fashion, provides an excellent example of how to negate the built-in protections for an innocent suspect. The conclusions reached by Mecklenburg (2006), which regarded any selection of a suspect as a "good" pick, completely ignoring the possibility of an innocent suspect, provides another worrisome example.

While the superiority of sequential lineups is still debated, researchers universally agree that sequential lineups produce fewer mistaken identifications. When a perpetrator escapes identification in a line up, law enforcement still has an opportunity to uncover other evidence of her guilt. On the contrary, once a witness makes an identification, the investigation often stops cold and the possibly innocent suspect proceeds to trial, where juries typically exhibit high confidence in the witness's identification. Two mistakes occur here, one compounding the other: the innocent person is likely headed to jail or prison, and the guilty person is free to continue committing crimes, representing a profound failure of the criminal justice system. Not only is the

citizenry left unprotected from crime, but the liberties of a law-abiding citizen are trampled instead of safeguarded. These ideas and conclusions are not new; Wells first began making recommendations regarding witness identification procedures nearly thirty years ago, in 1984. Yet consensus on the use of procedures remains weak, as the philosophical debate between the relative value of catching perpetrators and convicting innocents lurks below the surface. Steblay, Dysart & Wells (2012) recently asked whether policy makers would hesitate to require the use of the simultaneous format if the sequential format was the status quo and the simultaneous format proved 1.62 times more likely to identify the guilty person, highlighting the costs of adopting the procedure that better protects innocents. Recommendations and guidelines from such agencies as the National Institute of Justice as long ago as 1999, have recommended sequential lineups and double blind presentations.

Fourteen years later, a small sampling suggests the majority of agencies across the country have not upgraded their procedures and implemented standard practices for witness identification, though clearly some reforms have been made in some jurisdictions. Estimates of innocent persons wrongfully convicted based on faulty eyewitness testimony on an annual basis number in the thousands. Estimator variables are uncontrollable, but system variables are controllable; the criminal justice system should do everything possible to reduce the negative effects of system variables. Educating all involved parties and implementing double blind and sequential eyewitness identification procedures, represent reasonable next steps to improve the success rate of those procedures and reduce the irretrievable costs of wrongful conviction.

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# Appendix A:
# Survey

NAME OF AGENCY _____

PERSON COMPLETING THE SURVEY (should any response clarification be required)

NAME _____

TITLE _____

TELEPHONE _____

EMAIL _____

**RETURN INSTRUCTIONS**

Please complete survey and return in one of the following ways:

a) scan and email to Slaughte@seattleu.edu OR
b) mail in enclosed envelope OR
c) go online and complete SurveyMonkey@ https://www.surveymonkey.com/s/eyewitnessidentification

Please direct any questions to Lynn Slaughter at Slaughte@seattle.edu

**INSTRUCTIONS FOR COMPLETING THE FORM**

Keeping YOUR OWN practices in mind over the previous 12 months, please respond to the best of your ability using memory and/or case records.

1. How many patrol officers does your agency employ? [ ]
2. How many detectives does your agency employ? [ ]
3. Over the past 12 months, how many identificaiton procedures have YOU conducted? [ ]
4. What **percentage** of identification procedures did you conduct as:
   a. Photographic lineups [ ] %
   b. Live lineups [ ] %
   c. In-field show-ups [ ] %
   d. Other [ ] % (specify) _____
   **TOTAL** [100] %
5. Does your department use an automated or computer program for showing photographic lineups? (Y/N) [ ]
   If so, which one? _____

**FOR REMAINDER OF QUESTIONS, ANSWER *ONLY* FOR PHOTOGRAPHIC LINEUPS CONDUCTED:**

6. Typically, what percentage of photo montages did you show to the eyewitness by:
   a. A patrol officer [ ] %

b. The lead detective ____ %

c. Other ____ % (specify) _____

**TOTAL** 100 %

7. What percentage of the time does the person showing the montage know the suspect's identity?

a. Yes ____ %

b. No ____ %

**TOTAL** 100 %

8. What percentage of photo montages did you show simultaneously (all the photos on one page), or sequentially (one photo per page)?

a. Simultaneously ____ %

b. Sequentially ____ %

**TOTAL** 100 %

9. If simultaneous, how many pictures per sheet? ____

10. If sequentially,

a. How many pictures are shown? ____

b. Does the witness know in advance the # of photos s/he will view? Yes ____ No ____

c. Once the witness makes a selection, does s/he still view the entire array? Yes ____ No ____

d. If the witness makes no selection, does s/he look at the photos again? Yes ____ No ____

e. If re-viewed, are they viewed one at a time? ____ or all together? ____

11. What percentage of montages are viewed?

a. In the field ____ %

b. At the precinct ____ %

**TOTAL** 100 %

12. Who decides how lineups will be shown? (Please check one)

a. Officer/detective/deputy conducting the lineup ____

b. Policy set by Chief/Sheriff describing how lineups should be conducted ____

c. Policy set at state level describing how lineups should be conducted ____

13. Under what circumstances do lineup administrators know the identity of the suspect? (check as many as needed)

a. No one available to conduct double-blind ____

b. Victim felt comfortable with lead detective ____

c. Detective discretion ____

d. Other ____ Please specify _____

# Appendix B

APPENDIX B

No-Response Analysis

Table A.1

Local Police versus Sheriff's Departments

| | Responders N | Responders % | Non Responders N | Non Responders % |
|---|---|---|---|---|
| Local Police | 205 | 32 % | 432 | 68 % |
| Sheriff's Department | 101 | 26% | 278 | 74 % |

Local police responded at a slightly higher rate than sheriff's departments.

Table A.2

Types of Service

| | First Response to Criminal Incident | Routine Patrol | Respond to request for Service | Homicide Investigation |
|---|---|---|---|---|
| Responders | 96.7% | 97.1 % | 97.7 % | 94.8 % |
| Non-Responders | 94.6% | 94.8 % | 95.4 % | 93 % |

There was no significant difference between responders and non-responders based on type of services offered. Sixteen responders reported they did not conduct homicide investigations. An analysis of their identification procedures follows in Table A.3 as compared to responders overall.

Table A.3

Types of Service

| | Photo montages | Single Blind Presentation | Single Blind 90% + of time | Simultaneous Presentation | Simultaneous Presentation 90%+ of time |
|---|---|---|---|---|---|
| No Homicide Investigations | 80 % | 50 % | 35 % | 56 % | 57 % |
| All Responders | 87 % | 59 % | 42 % | 61 % | 55 % |

# Appendix C:
# Letter

Greetings:

I know you don't know me but I am counting on the kindness of strangers. Help me earn my Master's in Criminal Justice! I must complete a thesis on eyewitnesses.

I need actual police officers/detectives to take THREE MINUTES (and 9 seconds) to fill out my 13-question survey.

I've read what the researchers in their labs have to say; now I need input from law enforcement officers who actually conduct real-life eyewitness line-ups.

Please give this survey to a detective in your agency who will help me with this project. It can be completed in one of three ways:

1. old fashioned pencil and paper, mailing it back in the enclosed envelope (will cost .40)
2. same old pencil and paper and new-fangled scan and email
3. 21st Century method: go online and complete a Survey Monkey

To be valid research I can't offer any rewards, except my sincere gratitude*. So, thank you in advance. Maybe it will be like a chain letter and good luck will come to you if you complete this within 72 hours of receiving it. No promises.

[FINE PRINT: This is Seattle University IRB-approved descriptive research. Only the researcher, Lynn Slaughter, will have access to the surveys (her personal password-protected computer will be used for Survey Monkey and emailed responses, a dedicated mailbox will be used to collect mailed responses) names and identities of persons completing surveys and their agencies will not be published, and will only be known to Lynn Slaughter.]

Best,

Lynn Slaughter
Seattle University Department of Criminal Justice

*What I CAN offer is that if you complete this survey via Survey Monkey you can enter a drawing for a $20 Amazon.com gift certificate.

# Appendix D:
# Postcard

# Please help me graduate!

A few weeks ago I sent your agency a letter and survey on eyewitness procedures and I haven't heard from you yet.

PLEASE HELP ME OUT!
Tell me how you work in the field. Completing the survey will take less than five minutes.

You can access the survey online using this address:
https://www.surveymonkey.com/s/eyewitnessidentification
OR
email me at Slaughte@SeattleU.edu and I will email you a paper version.

Thank you,
Lynn Slaughter
Seattle University
Dept of Criminal Justice
Casey 3rd Floor 901 12th Ave
Seattle, WA 98122

USA
Justice
FOREVER
2021

SECOND REQUEST

# I want YOU to complete my survey!

**Lynn Slaughter, Seattle U Student**

Slaughte@seattleu.edu